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ART. I.—*An Introductory Lecture to the Medical Class of the University of Louisville.* By LUNSFORD P. YANDELL, M. D., Professor of Chemistry and Pharmacy.

GENTLEMEN—

From all parts of our wide country, you are assembled to-night in these Halls dedicated to Medical Science. From the East, the West, the North, and the South, moved by a common impulse, in pursuit of the same great object, across mountains and vallies, by long and tiresome journies by land and water, you have come to this seat of learning. In behalf of the Medical Faculty of the University of Louisville I cordially hail you welcome to our city and our Institution, while I assure you of the warm interest felt by them in your welfare, and of the deep responsibility they feel in regard to the direction that may be given to your studies, and the influence that may be exerted

over your lives by their teachings and example during the time that we are to be together. Behind, you have left cherished homes, and all the objects most dear to you on earth; before you are months of severe intellectual toil in a city of strangers. We can easily appreciate your feelings. We know from our own experience how wistfully you have turned your eyes towards those homes since the parental roofs faded away from your vision, and how dreary have appeared to you the streets of the populous city. It is a season of anxiety to many of you—a season of peculiar interest to you all. To some, this is the first journey, and the present the first lecture; to others, this is the beginning of your last course, and therefore fraught with momentous concern. There are those just entering upon the study, to whom medicine stretches out a vast *terra incognita*, dim, vague, immeasurable; others of you have acquired some competent knowledge of its extent, and soon will assume the duties of practitioners. But however unequal are your attainments, and however diverse have been your paths hitherto, during the lecture-term upon which we are entering your studies are to be the same, and your aims and aspirations, I trust, will be one. In the various lectures delivered, you will find matter enough to tax your best faculties, and no time left for loitering. The opportunities for improvement that you will enjoy are precious, and the manner in which you improve them will determine, to some extent, your future success and usefulness in life. If slighted or abused, they can never be recalled, and the deficiencies which you detect in yourselves in the spring may be discovered too late. With you, the present is emphatically seed time, and the harvest will correspond to what you sow. Let me exhort you to sow wisely and industriously that you may reap abundantly—to sow good seed which shall blossom in your riper years, and yield you fruit in your declining age.

It is known to you, that you have come here two weeks earlier than the classes have heretofore assembled in this institution, and you are probably aware that it is proposed to commence our next course of lectures on the first of October. In other medical schools in our country a similar change has been made in the time of commencing, so that in many of the institutions the lecture-term has been extended, with reference to giving a more thorough course of instruction. This extension is in conformity with the wishes of the profession, expressed through the conventions which met in New York and Philadelphia, in '46 and '47, and will be made, eventually, by all the American Schools. It cannot be doubted, that there is a prevailing sentiment in the profession of our country, that the standard of medical education ought to be raised—that the preliminary training ought to be better, and the instruction in medical science and practice, more thorough. This sentiment led to the movement to which I have referred—the convening in 1846, of a large body of physicians, from all parts of the country, for the purpose of deliberating on the best mode of advancing medical learning, and of protecting the profession against the increasing incursions of quackery. The call for the original convention was made in language offensive to many members of the profession, calculated as it was to convey the impression that it had become the subject of great abuses, demanding strong measures of reform. Reform, in fact, was the watchword, for a time, and this excited in many an apprehension that the movement was revolutionary, and produced a decided opposition to it. Nevertheless, at the time and place appointed a large convention was held, the temper of which proved to be entirely moderate and conservative, and the measures recommended, wise and salutary. It was evident that the spirit actuating the members, was one of regard for their profession—an ardent desire to render it more efficient and respectable. Those

who had opposed it from an apprehension that it was a radical movement were agreeably disappointed.

The second meeting was held in Philadelphia the following Spring, and was still more numerously attended. Most of the medical schools, and a majority of the States, were represented in the convention. The several committees appointed at the previous meeting made reports on various subjects relating to medical education, all in the right tone, and calculated to exert an elevating influence upon the American profession. Nothing radical, nothing violent was proposed—no startling innovations, but simply extension and improvement. The discussions were calm, temperate and dignified, and the suggestions made, such as the public sentiment of the profession has fully sanctioned.

The Convention, at this meeting, resolved itself into a permanent society, under the style of the American Medical Association. The Association met last spring in Baltimore, and at this meeting the University of Louisville was represented. The number of delegates in attendance was 277,—representing twenty States, and more than that number of medical schools. A more dignified assemblage has probably not been seen in our country. No physician could have been present at the meeting, and cast his eyes over the intellectual faces of the members, and listened to the reports and debates, without feeling proud of his profession. The same moderate temper which characterized the previous conventions was exhibited at this meeting —the same caution in recommending sudden and violent innovations—the same desire to urge forward the profession in the career of improvement. The first volume of its *Transactions* will soon appear, and I venture to promise that it will be creditable to the professional industry, talent, and learning of our country.

An impulse has been imparted by these meetings to the profession which will be felt in the most sequestered cor-

ners of the country, and will rouse physicians to greater activity, and to habits of study; a new life has been infused into the body, and will extend to all the members. The influence, though the time is so short, has already been everywhere felt and acknowledged.

It is conceded on all sides, that the system of education with us—preliminary and professional—is imperfect—that it demands extension and improvement. One of the resolutions adopted by the convention at Philadelphia in reference to the preliminary education of students is in these words:

"*Resolved.* That this Convention earnestly recommends to the members of the medical profession throughout the United States, to satisfy themselves either by personal inquiry, or the written certificate of competent persons, before receiving young men into their offices as students, that they are of good moral character, and that they have acquired a good English Education, a knowledge of Natural Philosophy, and the elementary Mathematical Sciences, including Geometry and Algebra, and such an acquaintance, at least, with the Latin and Greek languages as will enable them to appreciate the technical language of medicine, and read and write prescriptions."

What, and how much ought the young man to know before entering upon the study of medicine, and before he receives the degree of M. D?—this is the question, of all others, most prominently before the professional mind of the United States—one upon which your own minds, doubtless, have been often anxiously turned since your thoughts were directed to medicine as the business of your lives. It is a question which has been revolved much in my own mind in the years during which I have been a public teacher, and hitherto, I must own, without a satisfactory answer. It is the one which provoked the most discussion in the Association, which elicited the most feeling, and called forth the greatest contrariety of opinion.

And, in truth, is not the whole subject of education a perplexed and most difficult one, in relation to which all manner of crude and impracticable theories have been framed, and every species of quackery perpetrated? Of all the callings whereby men have sought to earn their bread by the sweat of their brow, that of the schoolmaster has appeared to me the most irksome, the most thankless —one of the most delicate and responsible; and yet it is precisely the one concerning which men of every grade of intellect and learning deem themselves most competent to express an opinion. So true is this, and so well understood, that he who engages in the painful task of "teaching the young idea how to shoot" makes up his mind, at the beginning, to submit to every form of criticism, and to hear patiently, without any hope of reconciling, the thousand-and-one schemes for rendering education more easy and complete.

Two of the greatest men that England has given to the world, each in his sphere, were, undoubtedly, Milton and Locke, and as scholars they had few superiors in their day. These learned men, scholars by profession, produced each a treatise on education; and England's great lexicographer speaking of them, has said that, "Education in England had been in danger of being hurt by two of her greatest men." In this manner these doctors disagreed; we shall see, as we proceed, that the doctors in our profession have not been able to agree any better.

The Convention demands, in the medical student, not only a knowledge of his own language, but some acquaintance with the Latin and Greek. Why is not this knowledge more universal? All our students have been at school—many of them for the greater part of their lives—and most of them profess to have studied the learned languages. Why then the general complaint, that the preparatory education of students—which means their knowledge of the languages—is meagre and insufficient? Why, when

nearly all of our youth are at school, during a good portion of their boyhood, have we so few good scholars? Is it not plain that the system must be defective which brings out no better results? Milton stigmatised the method of education in his day as an "asinine feast of sow-thistles and brambles," to which it was almost impossible to "hale and drag the choicest and hopefulest wits." A part of that system consisted in spending seven or eight years, as he expressed it, "merely in scraping together so much miserable Latin andGreek, as might be learned otherwise easily and delightfully in one year."

Two hundred years have sped their course since Milton uttered his just invective, and the evil seems to be as far as ever from being corrected. Boys are still engaged the long years of their pupilage "painfully scraping together" what they might do delightfully in one—remote as ever from that "hill-side" of the great poet, "so smooth, so green, so full of goodly prospect and melodious sounds on every side, that the harp of Orpheus was not more charming." That "right path of a virtuous and noble education," has not yet been attained. The proof of it is this universal complaint—coming up from individuals, and from conventions—from all parts of our own land, and from abroad. And yet there must be a plan by which scholars *might be made*, and made, too, in the time usually consumed at school; for light is not more grateful to the eye than knowledge to the youthful mind. There is an instinctive craving for both—"an infinite desire for a happy nurture;" and the only reason why so many look back upon their school days as the most cheerless of their lives is, that our scholastic studies are not rendered intelligible. My own impression is that it would be difficult to conceive of a situation more disheartening, more truly forlorn, than that in which boys at school generally find themselves—shut up to the darkness of an unknown tongue, with only the dim light of a dictionary to guide him through its mazes.

It is no wonder that under such tuition so few leave college with any just appreciation of the beauties of the great masters they have been pretending to study—that so many contrive, with the personage in Paradise Lost, to "sail with darkness" around the world of ancient literature, never once catching a glimpse of daylight. If men had gone about devising a scheme of torture for the young, which should also prove the most expeditious method of wasting precious time, it does appear to me that they could not have fallen upon one more effectual than the present mode of teaching the dead languages.

Locke, in the treatise that I have referred to, insisted upon this a century ago, and enforced his views by arguments which I cannot help regarding as unanswerable; but still the time-honored system maintains its ground. "I know not," says that profound writer, "why any one should waste his time and beat his head about Latin grammar, who does not intend to be a critic, or make speeches, or write despatches in it. If his use of it be only to understand some books writ in it, without a critical knowledge of the tongue itself, reading alone, as I have said, will attain this end, without charging the mind with the multiplied rules and intricacies of grammar." He would have the learner troubled with no grammar at all, but "have Latin, as English has been, without the perplexity of rules, talked into him." The next best method, he continues, "is to have him taught as near this way as may be, which is by taking some easy and pleasant book, and writing the English translation in one line, and the Latin words, which answer each of them, just over it in another."

Can any one give a reason why this method, so rational, so simple, so effectual, has not been adopted, and why the antiquated, unnatural mode of the grammar and the dictionary—"the feast of sow-thistles and brambles"—is still so generally upheld? I confess, I can conceive of none.

Language, all will admit, is but the *instrument*, conveying to us things useful to be known, and yet teachers seem to have been busy contriving the means of removing the instrument as far as possible from the learner. It is but the *key to knowledge*, and men, if they have not actually endeavored to hide it, have been content to leave their scholars to grope for it through years of painful toil. I see no indications of a change, but if a wiser system should ever prevail, I have the deepest conviction that boys, in the time now spent in the study of Latin and Greek, will not only learn those languages, and learn them better, but also acqure a knowledge of the French, Italian and German, and thus gain access to the stores of science locked up in those languages.

With the American Association, therefore, we hold to the Latin and Greek, but would have them acquired by a more rational and an easier process, and would connect with them the study of other things which might easily be done:—as, for example the various branches of Natural History, so that while the boy was engaged in the irksome business of learning words, he should be gaining a knowledge of objects useful to be known. Medicine is a most comprehensive science, with wide and varied connexions. As man is a microcosm, so his functions, in health and disease, have relations to the entire world of matter and mind around him. Physics, chemistry, mathematics, mental philosophy, geology, mineralogy, botany, comparative anatomy—all bear upon medicine; all illustrate the processes of the human economy, throw light upon its diseases, or afford remedies for their alleviation and cure. The knowledge of these things is scattered through many languages, which thus become an important instrument in the hands of the physician.

The season of Introductory Lectures is one generally embraced to enlarge upon these topics, and to indicate to students of medicine what they *ought to know*. Professors

would sometimes appear to be engaged in the benevolent effort to show to their classes how wide is the gulf of ignorance between the teacher and the pupil. They dilate upon the extent and diversity of attainments necessary to constitute an accomplished physician. He must be master of all the languages just enumerated, and perhaps of one or two more—must understand mathematics, metaphysics, natural philosophy, botany and chemistry, before he is really qualified to commence the study of medicine. Once past the threshold, he has anatomy, and the other six branches usually taught in our schools, to master. Each professor magnifies his department, by counting the cost of toil and time required to become a proficient in it. The anatomist, perhaps, will quote Haller, who maintained that anatomy could not be learned in less than twenty years. And, if so much time is necessary to learn anatomy, how much is required for the theory and practice, of which anatomy is only an elementary branch?

It would not be strange if some students, while listening to such a strain as this, should think of the history of the cabinet-maker, John Hunter, who boasted, late in life, that he possessed but seven books in the world, and that they were presented to him; or should remember the advice of Sydenham to Sir Richard Blackmore,* to *read Don Quixote*, when asked what medical books he should study; or should call to mind the opinion of that eminent physician, that anatomy was a study for the painter, and chemistry for the apothecary. But there are those who

* "That he recommended Don Quixote to Blackmore," says Dr. Johnson in his biographical sketch of Sydenham, "we are not allowed to doubt; but" he adds, "the relater is hindered by that self-love, which dazzles all mankind, from discovering that he might intend a satire very different from a general censure of all the ancient and modern writers on medicine, since he might perhaps mean either seriously or in jest, to insinuate, that Blackmore was not adapted by nature to the study of physic, and that whether he should read Cervantes or Hippocrates, he would be equally unqualified for practice, and equally unsuccessful in it."

will not take it so indifferently. Young men of a conscientious and aspiring temper will be discouraged by this representation of what one must know, in order to be esteemed an educated physician. Some, contrasting their limited acquirements with this Utopian standard, will be tempted to abandon the profession, or else will sit down in despair of ever attaining to eminence in it. If I address a student this evening, who has become alarmed by all this writing, and lecturing, and declaiming, and has come to the conclusion that his preliminary education is very bad, let him take courage from the following incident in the life of a good and great man, which, I trust, will not be considered out of place on such an occasion as the present.

I numbered once among my friends a man remarkable above almost any that I have known for the purity of his character, and the admiration in which he was held by those who knew him intimately—well-informed on all the great topics about which the minds of rational men are most seriously occupied,—a correct, forcible, and even elegant writer, who at the age of twenty years *had never heard of a dictionary*. His father lived on the western frontier of Virginia, and the early years of my friend's life were spent in hunting or in labor on his father's farm, and his early manhood in the Indian wars so common at that time. At the age of 24 he removed to South Carolina, and his bravery and good conduct in these border wars gave him such popularity that he was elected to the legislature of that State. In comparing himself with his fellow members, the first evening after he reached the capital, he was overwhelmed with a sense of his inferiority. He heard them, as they sat around the common tavern-fire, discussing state affairs of which he soon saw that he knew almost nothing. One word in particular, which was much used, I have often heard him confess, when playfully relating the anecdote, embarrassed him exceedingly—

the "Estimates." "What," said he to himself, "are the estimates?" He had never heard the word before, and had no conception of its meaning. He had gone to make laws for a State, and found himself ignorant of the common language of legislation.

He retired to his room and his bed, that night, confounded, inwardly resolving to return the next day to his constituents, and tell them that "he was a fool for going to the legislature, and they were fools to think of sending him there." Fortunately, however, he had as a colleague a man of penetration as well as benevolence, who saw under the rude exterior of the Indian fighter, those sterling qualities of mind and heart for which he afterwards became distinguished, and who stimulated and encouraged him in his despondency by kind words. He abandoned his purpose of returning home, and remained to the end of the session, improving in knowledge, and winning upon the members every day, by his practical good sense, and his frank, chivalrous character.

This individual was the late Col. WILLIAM MARTIN, of Tennessee, personally known to some who hear me to-night, known by reputation to more, as a gentleman who would have appeared advantageously in the most cultivated circles, who lived to fill many offices of dignity and trust, with credit to himself and benefit to the State, and in the most elevated body known in our country would have been respected for his wisdom, and admired for his virtues. I have had in my time the good fortune to know many pure and many great men, but I have not known one whose example I would sooner propose for the imitation of my young countrymen than that of Col. Martin. Let it remain with you, cheering you when despondent, encouraging you to great efforts for noble ends. Far, very far from us is the desire to see the standard of professional attainment brought down. Let it rather be elevated; but let the history of my friend, and the lives of other great

men, who have risen to eminence under every circumstance of discouragement, remind you what you may become by habits of self-denial and devotion to study.

How much it is desirable the physician should know, is one question; but how much it is *necessary* he should know in order successfully to pursue his profession, is quite a different one. It is desirable that every practitioner of medicine should be a philosopher; it is indispensable that every one should be a physician. It would be pleasant to be permitted to "look nature through," and understand all her hidden mysteries. It is a high prerogative to be able to follow the mathematician in his sublime computations, and the metaphysician, as he threads the labarynths of the human mind—to comprehend the laws of pneumatics, and optics, hydrostatics, and hydraulics—to trace and appreciate with the chemist the countless affinities which bind atom to atom, and give to the inorganic world its ever-varying aspect—to reconstruct with the geologist this wondrous globe whereon we dwell, and read in its organic remains the history of its by-gone existences. It is very pleasant; nay it is one of the purest and most rational enjoyments, and fulfils the great object for which man is made curious concerning the works of creation. But it is not given to many minds to grasp so much; life is too short, and our necessities are too importunate. But mastering all, would the physician practice his profession more skilfully for such stupendous learning? It may be doubted. *John Hunter*, no doubt, would have felt easier often times in the society of his school-taught cotemporaries if he had received the fine education of his accomplished brother; it is not so certain that he would have been a better anatomist or surgeon for the accomplishment. And his most distinguished pupil, *Physick*, how much of his fame rests upon his scholastic attainments? He was a physician and a surgeon—eminent in both walks—a master of the resources of his art—dextrous above most men in the

use of his knife, and not less wisely taught in the indications when to use it. To these admirable qualities he owed his eminence among men. It is therefore, not the rude, unprofitable mass of learning that one may acquire, but the skill with which knowledge is employed, that makes the great difference among medical practitioners.

It has become a very common complaint among physicians, that medicine is not as much honored as it was in the earlier ages—that it has in some degree lost caste—that medical men are not as thoroughly educated as in former times, and do not receive the homage once paid them. I suppose it is true, that the age of Hero-worship in our profession has well-nigh passed away. Medicine is no longer held to be of divine origin, nor would its votaries now-a-days be received as descendants of the gods. No Hippocrates now sits on a more than regal throne, prescribing laws for the medical world; and no physician, whatever be his repute, is likely to have an opportunity of rejecting such a bribe as that offered the physician of Cos to leave his native country and avert a threatening pestilence from a neighboring realm. This era is gone, and with it, happily, is gone also the age of the bag-wig and gold-headed cane—the age of the sapient nod and pompous inanity—the age of mystery and mummery in medicine. But that medicine maintains its proper rank among the professions, we need go no further for proof than to the example of the great surgeon whose name I just now mentioned. The city in which he passed his life, and which derives honor from his name, has produced many individuals distinguished for ability in all the walks of life in which men seek renown, but was there among them all one whose professional standing was more exalted, whose professional aid was more widely invoked, whose public career more eyes watched with admiration, or whose death was more lamented than that of *Physick?* And as to all that constitutes a thorough medical education, there

never was an age that could claim superiority over our own—never a time when in all the elements of scientific training medical men would compare with the practitioners of the present day.

Medicine is a progressive science, and of slow growth. It is advanced from day to day by the laborious process of observation, and startles the world by no sudden bounds. The false reformers who have pretended to the discovery of new systems of universal application, after misleading their deluded followers for a season have successively fallen into disrepute, leaving the ground to be occupied by new pretenders and another set of delusions. But the stream of medical science has rolled on its pure tide through this polluted flood for more than twice ten centuries, swelled by new tributaries every year. It is continually receiving fresh accessions of positive science. The spirit in which it is cultivated is an improved one. Medical philosophers no longer deem it the true end of life to shut themselves up in their studies and elaborate a system of medicine; they are satisfied to engage in the humbler office of contributing to its assured facts. When chemistry was in its infancy its nomenclature was seized upon by medical enthusiasts as a basis of a nosology, and its limited range of truths were fashioned into a grotesque system of pathology; and there was a class of diseases corresponding to oxygen, another to nitrogen, another to phosphorus, and so on; with acid, alkaline and antiseptic remedies adapted to the various diatheses. This day has gone down the sky, and it is only now the demonstrated truths of the science that the medical philosopher admits into his system.

And so, one by one, medicine is discarding its superstitions. When the physiologist now finds parasites in the bodies and organs of animals, he is not content to explain the singular phenomenon by the hypothesis of spontaneous generation—the medical *natura abhorret vacuum*, but goes

to work and traces them, through all their metamorphoses, in their progress to their several abodes. He discovers by the microscope, that they are deposited as eggs upon the objects used by the animal for food; or detects them buried in the folds of his skin, and pursues them as they burrow through the walls towards the interior, until at last he finds them lodged in the liver or whatever other organ it is that they invade.

Our conceptions of the various functions of the animal economy are daily gaining in clearness and precision, and contrast most favorably with the theories of physiologists half a century ago. When the celebrated William Hunter lectured on anatomy in London, the best account that he could give his pupils of the Stomach was, that it was *not* a mill, nor a fermenting vat, nor a stewpan, but, as he expressed it, "*a stomach*, gentlemen, *a stomach*." The physiologist having been permitted to look into Alexis St. Martin's stomach and perform some hundreds of experiments upon it, and having studied digestion by the light of modern chemistry, is able to give a more satisfactory explanation of it. He has a correct appreciation of the circumstances under which it takes place, and no longer regards it as something mysterious, inexplicable, effected by a vital force opposed to chemistry; but has come to consider it a chemical process, which may be effected "out of the body as well as in it." The agency of the pancreas in this process he has only lately got to understand, M. Bernard having just established by a series of experiments that its office is to form the fatty portions of food into an emulsion fit to be absorbed and assimilated.

By a beautiful application of the principles of physical science to the chest, the most surprising accuracy has been attained in the diagnosis of thoracic diseases. The physician applies his ear over the lungs or heart, or strikes upon the chest with his finger, and elicits sounds which reveal to him not only *what* the disease is,

but *where* it is—in the lungs, in the heart, or in the great bloodvessels—whether it is progressing, or is yielding to his treatment—indicate it as certainly as the notes of the musical instrument direct the ear of the practiced performer to the key which is out of tune.

But I will detain you only long enough to allude to one more instance illustrative of medical progress. The surgeon, until lately, when going about his fearful task, expected its performance to be amid the cries and groans of his patients. Anguish appeared to be the inevitable penalty annexed to submission to his art. Sometimes he administered opiates to stupify the senses, but generally it was deemed expedient to leave the system with all its acute sensibilities to the tortures of his knife; and patients have been known to commit suicide, in order to escape the horrors associated with its use.

Less than two years ago it was announced in Boston that a Dentist there had discovered a *Letheon*, under the influence of which persons had teeth extracted, and patients had the most painful operations in surgery performed, without any consciousness of pain. I need not tell you that the statement, strange as at first it appeared, has proved to be true. The discovery is fully established. In a few weeks after it was published in Boston the letheon was tried in London, Paris, and Edinburgh, and the results of the practice by the surgeons and physicians of those cities we had here in Louisville long before the winter had passed away—results that read more like tales of fiction than sober, scientific realities. Patients have limbs amputated, and dislocated limbs reduced; tumors, teeth, and the sensitive eye are exsected; the hot iron is applied to the tender skin; in a word, all the procedures of surgery which have been most dreaded by men, are now executed

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Our conceptions of the various functions of the animal economy are daily gaining in clearness and precision, and contrast most favorably with the theories of physiologists half a century ago. When the celebrated William Hunter lectured on anatomy in London, the best account that he could give his pupils of the Stomach was, that it was *not* a mill, nor a fermenting vat, nor a stewpan, but, as he expressed it, "*a stomach*, gentlemen, *a stomach*." The physiologist having been permitted to look into Alexis St. Martin's stomach and perform some hundreds of experiments upon it, and having studied digestion by the light of modern chemistry, is able to give a more satisfactory explanation of it. He has a correct appreciation of the circumstances under which it takes place, and no longer regards it as something mysterious, inexplicable, effected by a vital force opposed to chemistry; but has come to consider it a chemical process, which may be effected "out of the body as well as in it." The agency of the pancreas in this process he has only lately got to understand, M. Bernard having just established by a series of experiments that its office is to form the fatty portions of food into an emulsion fit to be absorbed and assimilated.

By a beautiful application of the principles of physical science to the chest, the most surprising accuracy has been attained in the diagnosis of thoracic diseases. The physician applies his ear over the lungs or heart, or strikes upon the chest with his finger, and elicits sounds which reveal to him not only *what* the disease is,

but *where* it is—in the lungs, in the heart, or in the great bloodvessels—whether it is progressing, or is yielding to his treatment—indicate it as certainly as the notes of the musical instrument direct the ear of the practiced performer to the key which is out of tune.

But I will detain you only long enough to allude to one more instance illustrative of medical progress. The surgeon, until lately, when going about his fearful task, expected its performance to be amid the cries and groans of his patients. Anguish appeared to be the inevitable penalty annexed to submission to his art. Sometimes he administered opiates to stupify the senses, but generally it was deemed expedient to leave the system with all its acute sensibilities to the tortures of his knife; and patients have been known to commit suicide, in order to escape the horrors associated with its use.

Less than two years ago it was announced in Boston that a Dentist there had discovered a *Letheon*, under the influence of which persons had teeth extracted, and patients had the most painful operations in surgery performed, without any consciousness of pain. I need not tell you that the statement, strange as at first it appeared, has proved to be true. The discovery is fully established. In a few weeks after it was published in Boston the letheon was tried in London, Paris, and Edinburgh, and the results of the practice by the surgeons and physicians of those cities we had here in Louisville long before the winter had passed away—results that read more like tales of fiction than sober, scientific realities. Patients have limbs amputated, and dislocated limbs reduced; tumors, teeth, and the sensitive eye are exsected; the hot iron is applied to the tender skin; in a word, all the procedures of surgery which have been most dreaded by men, are now executed

upon their persons while they are asleep and lapped in pleasant dreams!

> "Can such things be
> And o'ercome us like a summer's cloud
> Without our special wonder?"

But this agent, wonderful as were the effects produced by it, was not wholly unobjectionable. The sulphuric ether is unpleasant to inhale, and leaves a persistent odor offensive to many; a long time is occasionally necessary to bring the subject under its influence, and in some, its inhalation is followed by headache. On account of these disagreeable qualities it appeared to practitioners desirable to find, if possible, some better anæsthetic; and since the last Introductory was delivered in this room, Prof. Simpson, of Edinburgh, has announced the discovery of a substitute, more pleasant, more efficient, and only not quite so free from danger.

The discovery of *Anæsthetics* constitutes an era in our profession, for their application, far from being limited to surgery, has already been extended to all the departments of the healing art, and we can only now regard them as just fairly introduced. They have been applied with singular industry, and our experience respecting them, considering that they have been in use less than two years, is very great; but no one can esteem the practice as otherwise than in its infancy, and it would be idle to predict what it will grow to.

Chloroform, the substitute introduced by Prof. Simpson, is a most potent article, although a great majority of persons may inspire it long enough to become intoxicated, without any unpleasant consequences. Of the tens of thousands who have breathed it only one, here and there, is reported to have suffered from the practice. The wonder is, that an agent which kills frogs, fish, newts, snails, and other small animals with the rapidity of hydro-

cyanic acid, should have been used indiscriminately by such numbers with impunity;—not that a patient now, and another again, should have died under its influence. It *is* a thing to excite our admiration, that a vapor so deadly, may be inhaled with safety by all but *one* in a million—that, while *any* one would be killed by it if it were pushed far enough, perhaps *every* one may take it with safety to a limited, and, for all practical purposes, a sufficient extent.

A neighboring city, early in the history of chloroform, furnished an illustration of its fatal power. A woman, in Cincinnati, (Mrs. Simmons) died last winter at a Dentist's office under its influence. Other fatal cases are already on record; but in the history of almost every case there is evidence that the agent was improperly applied. Mrs. Simmons breathed the vapor from an instrument which did not admit of a due admixture of atmospherical air; she breathed it in a sitting posture, and made from twelve to fifteen inspirations. Under the circumstances, this brought on syncope, which ended in death. These cases will impress a salutary caution upon our profession, all too prone, perhaps, to be led away by novelties; but experience has fully demonstrated the fact—that patients may be kept for a long time without injury under the requisite influence of this powerful anæsthetic, and that they may employ it to an extent short of inducing insensibility, and short of danger, but still with the effect of blunting sensibility to pain.

But it appears from some recent experiments with chloroform, that it will not be necessary to subject our patients to its general action; it may be applied locally, so as to annul sensibility in any particular part. Mr. Nunneley, of Leeds, England, has discovered, that by immersion in a small quantity, or merely by the vapor applied for a short time, one of the extremities may be rendered *perfectly motionless and senseless*, while the general system remains

unaffected; and thus limbs may be amputated, and operations performed on the eye, and other parts, without pain, the patient all the while retaining his consciousness.

These results are very striking, and yet, I have the firmest persuasion, we are only at the beginning of a series of appliances of which these wonderful agents are susceptible. Great truths, we know, seldom come forth full grown into the world. Galvani, when he saw the muscles of his frog convulsed by the electric spark, could have had but little conception of the brilliant discoveries which were to result from that observation; he little dreamed that in that apparently trivial fact lay the germ which has since expanded into the Magnetic Telegraph. When Franklin ventured upon the bold enterprise of drawing the thunderbolt from the clouds, he could have hardly hoped or imagined, that in a little more than half a century this resistless fluid, at man's bidding, would be flying along these magical wires with the swiftness of lightning and the quietness of light. Chloroform and sulphuric ether may be superseded by more eligible agents, but anæsthetics, it is safe to predict, will hold their place among the resources of our art, a priceless boon to the afflicted, fulfilling indications now, perhaps, little thought of. Before taking leave of the subject, let me suggest one,—it is their application to malignant cholera. In that fearful disease, it is known to those who are familiar with it, that patients complain of nothing so much as of the intolerable cramps. Is not chloroform adapted to this exigency? May it not be administered in such a way as to allay the spasms, while other remedies are directed to the relief of the disease, and at least prove, if nothing more, a euthanasial means in cases where nothing avails to cure?

The history of Etherization exemplifies well the progress of medical discovery. More than three centuries ago *sulphuric ether* was distilled by Valerius Cordus; for years it has been a remedial agent of quite subordinate in-

terest, and boys have for a long time been inhaling its vapor to induce a transient, pleasing ebriety; but it was reserved for a Dentist of Connecticut to discover its anæsthetic virtues. The discovery once made soon spread over the world, and the agent in a few months became the common property of the profession wherever medicine is cultivated as a science.

At nearly the same time, about sixteen years ago, Soubeiran and Liebig discovered *Chloroform*, and a few years subsequently Dumas determined its precise composition. It was used by a few physicians, in a limited number of diseases; but for the most part it lay a useless reagent in the laboratories of chemists. Simpson, after the lapse of fifteen years, took it up in search of a substitute for sulphuric ether, and found it possessed of surprising powers.

The work is going on. Nunneley and many other experimenters have it in hand, and the results already announced are of a character to inspire the highest hopes. And so the work of improvement in our profession will continue to go forward. Among the innumerable products of the laboratory there are no doubt agents, which are to acquire all the interest with which chloroform has so suddenly become invested. Progress is at once the prerogative and the destiny of our race, and being so of man, must be also of the professsion in which, to the end of time, man is obliged to take the deepest concern. Progress is the great truth taught by all that we see around us.

One of the most impressive truths of modern science is that revealed by Geology—that races of animals as well as individuals have their appointed time upon earth, and having filled the circuit assigned by the Creator, disappear from among the living. Of the long list of genera and species which flourished in the earliest seas, none have come down to our times, and the remains of only a few extend even into the strata of the formation succeeding the first. The strange organisms of the oldest rocks

in which traces of life are first distinguished—the Corals, Crinoids and Trilobites—are not found in the strata of the next system, and those of the second, with here and there a solitary straggler, do not appear in the third. Upwards of eight hundred distinct species of animals have been described as belonging to the earliest, or Protozoic period, and of these only fifteen are common to the whole Palæozoic era, and not one extends beyond it. Species, genera, and whole tribes suffered extinction at the close of the coal series, and while most of the families are still represented among the creatures of our seas, even the very type of one has passed away. Of the multiplied species of Trilobites which peopled the early ocean, and were probably its monarchs, not a single one has been found in the strata more recent than the carboniferous era. The family perished from off the earth. We find the last remains of it, in our region, entombed in a red oxide of iron which occurs in a few localities resting upon the Slate. The generation is manifestly drawing towards its close; the giants of the older seas are gone, and a race of pigmies occupy their place. With the deposit of iron ore they entirely disappear, and we search in vain in the rocks above for any vestiges of a tribe which once swarmed in every sea.

The beautiful family of Ammonites had a longer duration, but they, too, like the Trilobites, have become extinct, and no where in strata higher than those of the *secondary* age of the geologist are their exuviæ to be found. Many hundred extinct species of Fishes have been described, of which hardly a type is seen in the existing ocean and rivers; and of the huge reptiles, of uncouth shapes, whose remains are left in the stony strata of all lands, no representative is found sporting among the monsters of the deep. Race after race has been blotted out, and our earth and seas are tenanted by new genera and species, having reference often to the original type.

but modified in form, and adapted in organization to the present state of things.

I have adverted to these remarkable facts, with which geological science has made us acquainted, for the purpose of directing your attention to that other sublime truth, which, as with a pen of iron, is engraved upon the stony tables of our globe, and exhibited at every stage of its marvellous history. It is, that progress is visible everywhere, and was in the mind of the all-wise Creator during this long succession of genera and species, tribes and classes. In the stony beds which afford the first indications of life, the geologist marks only the lowest and rudest types of animal existence—*graptolites*—the traces of *worms*—a few *sponges*—an occasional *coral*. Above, in the strata which succeed, the remains of the *crinoidea*—ocean-lilies as they have been styled—*shell-fish*, and *trilobites*, creatures a little more highly organized, appear; but for unnumbered years a crustacean, not higher in the scale of being than a lobster, was the chief organism of our globe. Ages passed away before there is any evidence that the lowest order of vertebrated animals—the *Fishes*—were brought upon the stage. Towards the close of the first geological period, in the upper beds of the Silurian rocks, the remains of fishes are first seen; and these continued to be the reigning dynasty during the long period in which the deposits forming the Devonian and Carboniferous systems took place. The Fishes about this time appear to have been superseded by a powerful race of reptiles, and these in succession by Birds and Quadrupeds, until at length, late in the week of creation, Man was called into being, erect in form, with "reason looking before and after," fitted to assume the sceptre of the world, and hold communion with its Divine Author.

And will this system of progression, which we have thus traced through the successive geological epochs, be perpetuated, or have we, at last, seen the end? As tri-

lobite yielded the throne to fishes, and these in their turn to reptiles,—as reptiles were supplanted by birds, and birds by mammalia, until a being was placed upon the earth capable of inhabiting all its zones, and of subduing to his uses all its inferior creatures,—so is man, too, as a family, destined finally to pass away, deposed by a higher and nobler race of beings? Philosophers there have been who, unwilling to limit the power of the omnipotent Creator, have arrived at this conclusion; but ours is a more consolatory faith. We believe in the system of unending progression, but we believe that Man, with whom it has commenced in time, will be the subject of it through all eternity. We look for the coming of a new heaven and a new earth, but without any fear that our race will be supplanted by another, for their adorable Judge and Monarch will be one who took upon him our nature and became our brother. And man who was formed at first in the image of his Maker will still maintain his rank among the created intelligences of the universe, and his march will be onward and upward forever.

ART. II.—*Clinical Instruction in the London and Paris Hospitals.* By DAVID W. YANDELL, M. D., of Louisville, Ky.

"What are you going to London for?" I once heard a young graduate in medicine asked, who had just had a passport filled for Great Britain. His reply was, "for the hospital advantages and anatomical facilities." I had passed a summer in that vast city only two years before, in search of medical knowledge, and felt the injustice my young professional brother would be doing himself in sojourning there any length of time, but in the hurry and bustle attendant upon disembarking from a long voyage, although I wished to make myself known to him and point out the error under which he was laboring, the opportunity for doing so did not present itself.

What, in reality are the hospital advantages of London? Great, very great. In comparison with those of Paris? Small, very small. And as for anatomical facilities, there is not a medical school, in any village in the United States, however small, which does not afford subjects for dissection cheaper and in greater abundance than either King's College, or University College, or any other College in London.

I remember very well, that in the summer of 1846, when following the lamented Liston through the wards of the University College Hospital, I thought what an ample opportunity was afforded me for acquiring medical knowledge! At that time I fancied that he who saw most would learn most. It was not long, however, before I began to experience that there was something wanting—that there were too many students about the beds of the patients; that I saw disease, but could neither feel nor hear disease; in a word, that my opportunities carried me to a certain point and there stopped. Not content with what I saw in University College Hospital alone, I followed Key, in Guy's Hospital, Fergusson in King's College Hospital, Lawrence in St. Bartholomew's, and other surgeons in other hospitals; but still the same objections were present to me. I bethought me of the dissecting room, and through the kindness of Mr. Liston every facility was afforded me free of charge, which was effected by my dissecting in his private room. Those students, however, who were dissecting at that time were paying, if I remember aright, a guinea for an arm, 30 shillings for a leg, and from four to five guineas for an entire subject. For what they were paying for a single lower extremity in London, they might have dissected in Paris, from the first of November to the middle of April, and in Florence for two sessions of five months each, and had their knives regularly sharpened into the bargain.

Knowing that clinical lectures were of inestimable value, I looked about me for good teachers, determined to attend their courses with the utmost assiduity. Stanley amused me exceedingly the first two or three days by his pompous, inflated, florid style, but I soon grew weary and ceased attending his

clinics. Fergusson possessed even less talent for lecturing than Stanley, and although the matter of his lectures was pre-eminently sound, practical and valuable, his manner of communicating it was so unpleasant that my patience was soon exhausted. J. C. B. Williams, although by no means a lecturer of the first order was still infinitely superior to either of those just named, and always succeeded in imparting much that was useful, notwithstanding his manner was offensively testy and ill-humored. Quain could almost be said to have been a pleasant lecturer, though he was somewhat wanting in a very essential element of a speaker, animation. Without extending to greater length the list of clinical teachers, it may be said of the London faculty, that it would be a difficult task to find among so many men of extensive acquirements and reputation, so few who were interesting and attractive instructors. The power of imparting knowledge orally, so far as my observation extends, is possessed by a very small number of Englishmen.

Every medical school in London has in connection with it a hospital, access to which is obtained by paying, save in a few instances, a hospital fee, varying in amount in different hospitals.

Admission to the University College Hospital costs four dollars; to the London Hospital, ten dollars; to King's College Hospital, two dollars; and to Middlesex Hospital, five dollars.

The offices of dresser, house-surgeon and clinical clerk, in some hospitals, are obtained by purchase; in others they are awarded to merit. In Guy's Hospital a dressership costs two hundred and fifty dollars per annum; in the London Hospital it commands one hundred and fifty dollars, as is also the case in the Middlesex Hospital.

Attendance upon both the medical and surgical practice of University College Hospital costs one hundred and fifty dollars; upon either one alone seventy-five dollars per annum.

One cannot become an attendant upon the meetings of any of the scientific societies unless he pay the admission fee, varying in different institutions, but in all cases being of some mo-

ment to the student who wishes to take advantage of all the various means of improvement by which he is surrounded. How differently things are conducted on the other side of the channel!

In the first place the most abundant anatomical material is obtained at the *Ecole Pratique*, or *Clamart*, during six months, for six dollars—for less than half the cost of a subject in London. And this, if one is not a candidate for a diploma from the *Ecole de Médicine*, is the sole outlay for medical knowledge. Should the diploma be made an object, the sum that the house-surgeon annually pays at Guy's will meet all the costs and give him thirty dollars to spare. In other words, the attendance upon one single course of lectures in any one of the schools and any one of the hospitals, in London, will cost more than attendance during four years upon the lectures of eighteen professors and twelve hospitals in Paris. In Paris a hospital fee is unknown, and the house-surgeoncy and clinical clerkship, instead of costing their occupants one or two hundred dollars, are sources of almost that much revenue, yielding to each, eighty dollars and their lodgings, the first year, and a hundred dollars and their lodgings during the second and third years.

In London, although each school has its hospital, the number of students in attendance on them is too great to allow of that close examination and continued investigation of cases, which is necessary to give clinical instruction the highest value of which it is susceptible. In Paris the case is different. The number of students at the *Ecole de Médicine* is, say one thousand. These are divided among ten hospitals, and the hundred thus allotted to each are again subdivided and scattered over the building, some in the surgical, and others in the medical wards—some following Velpeau, others Gerdy, and others again Bouillaud.

Let us take *La Charité*, for instance, and observe how instruction is dispensed there. The patients are distributed through sixteen wards, and are committed to the care of eight physicians and surgeons. The wards are open to students

from 7 o'clock A. M. till 10 A. M., three hours, during which time the visits and lectures are made, and operations and autopsies performed. Now, Velpeau, attractive as he is, seldom has with him more than twenty or thirty students during his visit; as soon as he adjourns to the amphitheatre, which he always does at a regular hour, the number is greatly augmented by accessions from the other wards, and even from other hospitals. But during the hour of his stay in the wards he rarely has more students than I first stated, and because he has so many his visits are less profitable to students than those of his neighbor, Gerdy, for the very obvious reason that the few who accompany Gerdy have a much better opportunity for making a thorough examination of the cases. Bouillaud, although, as I have said before, one of the first clinical lecturers in the world, does not generally succeed in assembling more than ten or fifteen students, and consequently every one of them has an opportunity of examining the many interesting cases in which his wards so constantly abound.

French medical students well understand, as I suppose do all medical students who have seen hospital practice, that beyond a certain, and that quite a limited number, seeing becomes a thing quite impossible; and unless the student himself can see, hear and feel the patients, it is quite clear that he will walk the wards of the hospital for many a long day before he can become a diagnostician or practitioner. Merely breathing the atmosphere of hospitals is far from being adequate to rendering students competent physicians. A man, for example, can never learn diseases of the chest unless he auscult, and this he cannot do in a hospital if there be a large number of students. He can never educate his finger, so as to make it an intelligent servant in vaginal examinations, unless he has opportunities to use it. He may grow grey in looking at Hugier and Paul Dubois practice the *toucher*, and be none the wiser for it. It is indispensable, if he would become a physician, that he auscult, and percuss, and *touch* for himself. These are things that cannot be done by proxy, and

the superiority of French hospitals over all others, consists in the facilities which they afford for these examinations in *propria persona.* In a single morning one may see a dozen cases of disease of the uteri, in Jobert's wards, and may auscult half this number of lungs in Bouillaud's wards, at least three times a week.

The industrious student in Paris may see in one morning the cases in both a medical and surgical ward, hear a clinical lecture, witness any operations that are to be performed, and be present at the post mortem examinations. And if he be strong, and fleet of limb, he may follow Roux through his wards at the *Hotel Dieu*, Jobert through his at *St. Louis*, and hear Velpeau lecture at *La Charité.* No hospital, or library, or apothecary's fee is necessary to all this. The matriculation ticket of the school of medicine, or a diploma from any other medical school, secures a card of admission to those hospitals; and in the absence of a diploma, a simple declaration of the fact of your being a foreign student or physician is sufficient, the ticket system having been introduced solely with the view of preventing improper persons from entering the hospitals, and even this obtains in only a few of them.

As I have already intimated, situations in the hospitals are neither bought nor given away; they are the reward of merit, free alike to the young and old, the rich and poor, to be obtained in but one way—by *concours*—which, with all the objections that may be urged against it, is, in my opinion, the best, and in truth, the only decisive test of merit.

Relative to that most important subject, anatomical facilities, one could not wish them greater than they are in Paris. There are two immense establishments set apart for dissections, the *Ecole Pratique*, and *Clamart;* the one within a few steps of the school of medicine, and used during the winter session; the other distant a mile or more, the most convenient, largest, and best appointed building of the kind in the world, and open both winter and summer. The demonstratorships and assistant demonstratorships are the reward of merit, conferred by *concours.* At the *Ecole Pratique* there are five or six

rooms, each furnished with a demonstrator, and each containing eight or ten tables for subjects; and about as many rooms, containing four or five times the number of tables, at *Clamart.* The classes are composed of four or five members; the cost of the dissecting ticket is thirty francs a session; the number of subjects furnished is amply sufficient; the demonstrators are always at their posts, and are necessarily competent. Two courses on operative surgery are given annually; one in the amphitheatre of the *Ecole Pratique*, during the winter, the other at *Clamart*, during the summer. Besides these, which are embraced in the curriculum of the school of medicine, private courses can at all times be obtained from the different demonstrators, who also take, although contrary to the edict of the dean of the faculty, private classes on anatomy. Since I have alluded to the subject of private teaching I may remark, that the various *internes* and clinical clerks are but so many private instructors, whose services are to be obtained at the rate of five or six dollars a month, and it is by embracing the opportunities which these men afford that the student will learn most. Some years ago private clinical instruction in the hospitals was sanctioned by the administration, but being carried by the *internes* to too great an extent, the patients made such loud complaint that it became necessary to prohibit it. A physician, who was *interne* during the existence of the law permitting it, told me, that so great was the love of money or the love of teaching, he could not say which, a short time before the law was repealed, the *internes* spent almost the entire day in the wards, examining and re-examining the patients, very often rousing them from sleep before it was fairly light to begin the work of investigating their diseases, and, not satisfied with prosecuting it through the day, pursued it often by candle-light far into the night. Patients, at length, grew impatient and refused to submit to such torture; the law was abrogated, and under the present system private clinical teaching is conducted *sub rosa.* But the laws of a hundred faculties and administrations would be little heeded by the *internes*, when pecuniary reward was in

question. Human nature can too seldom withstand the temptation of money, and *French nature* is not proof against it. Form a class of four, or even two, and offer an *interne* five dollars per month each, and the doors of the hospital turn noiselessly on their hinges, and the faces of the nurses wear a smile of welcome; the director never intrudes, the patients are your own, to be examined at your leisure, and the *interne* at your side to assist, direct and instruct you.

Orfila, strict, stern and severe as he was, never succeeded in suppressing private courses on anatomy and surgery at either Clamart or the Ecole Pratique, though he often swore he would make *cadavres* both of those who attempted to give and those who received them. They were given in spite of his watchfulness and in defiance of his threats, and would have been given had there been a score of deans all equal to Orfila. They are given now under Bouillaud's administration, and will continue to be given till there are no students willing to pay five dollars a month for a course on the former, and ten dollars for a complete course on the latter subject.

Paris abounds in private teachers. Private instruction can be obtained on any subject. Magendie's assistant delivers lectures on Physiology; Blandin's assistant on Operative Surgery; Paul Dubois' assistant on the *Toucher;* the keeper of Dupuytren's Museum on Pathological Anatomy. The price of these tickets varies from six to ten dollars. Then there are Sichel's, and Desmarre's, and Tavignot's clinics on diseases of the eye, a clinic on diseases of the ear, etc. etc.

Another advantage that cannot be too highly estimated arises out of the circumstance that there are in Paris hospitals devoted exclusively to a certain class of diseases; as the Du Midi hospital to venereal diseases, St. Louis, a large portion of it, at least, to diseases of the skin, and other hospitals to other diseases.

Without extending my present and last letter to greater length, the advantages afforded by Paris may be briefly said to consist in the number, size, and wise and liberal administration of her hospitals, the abundance of anatomical material, the

number of private clinics and private courses, the talent of her public and private teachers, the cheapness of instruction in all its branches, the number and reputation of her scientific bodies and associations, and the system of *concours*, which, while it secures the highest qualifications, is impartial in its operation, affecting alike the rich and the poor, the befriended and the friendless.

In bringing to a close this series of letters, extending now through more than two years, and over six volumes of the Journal, I trust I may be indulged in a few words personal to myself. The correspondence was commenced without any definite plan, and without the slightest expectation that it would swell to such an extent, the chief motive which commenced it and has kept it up, having been a desire to lighten the editorial labors of one to whom I owe all that a son can owe a father; and if I have accomplished nothing else by my letters, it is a source of unfailing satisfaction to me to know, that I have at least been successful in this. The reader who has had experience in literary matters will not need to be told, that the preparation once a month for the press of a long letter, amid the labors of a medical student in Paris, is no small tax upon one's time and energies. But through all the toil and weariness of it I have been cheered at every stage by the assurance, that my communications were well received. The favor, indeed, with which they have met, far exceeds anything that I could have expected or hoped. With an expression, then, of my thanks to the readers of the Journal for their indulgence, and to my brethren who through the press have spoken so approvingly of my letters, I here bring the correspondence to a close.

Louisville, Ky., Oct. 29th, 1848.

REVIEWS.

Art. III.—*On the Causes and Treatment of Abortion and Sterility;* being the Result of an extended Practical Inquiry into the Physiological and Morbid Conditions of the Uterus, with reference especially to Leucorrhœal Affections and the diseases of Menstruation. By James Whitehead, F. R. C. S., Surgeon to the Manchester and Salford Lying-in Hospita. Philadelphia: Lea & Blanchard. 1848. pp. 368: 8vo.

We resume our analysis of this work at the fourth chapter, which treats of the

Last menstrual crisis. The age at which the menstrual function ceases is as uncertain as that at which it begins. In most cases cessation takes place somewhere between the fortieth and fiftieth years, but it may happen much earlier, and is not unfrequently delayed to a much later period. Mr. Whitehead adds several instances of late menstruation to those already on record: one lady began to menstruate at the age of thirteen, and is still menstruating at seventy-five, the discharge having never been interrupted except for about a month before confinement and two or three months afterwards; this lady's mother and maternal grandmother were subject to the same peculiarity. Another, ceased to menstruate at fifty-five; she died in her ninety-first year, having menstruated regularly for thirteen months previous.

It is not yet ascertained that the age at which the function

begins, whether early or late, has any marked influence on the time at which it ceases. According to some writers an early beginning is followed by late cessation, a late beginning by early cessation; according to other writers an early beginning is followed by an early cessation, and a late beginning by a late cessation, the interval between the first and last crisis being assumed as constant. But it is highly probable that many other circumstances have a share in determining the final period: such as the period of the first pregnancy, the number and kind of pregnancies, the diseases which the female may have suffered, the temperament, hereditary predisposition, &c. These circumstances are so many and so various that it will always be impossible to appreciate their influence.

The author gives a table showing the time at which sixty-nine individuals, who survived the last menstrual crisis, began and ceased to mentruate, the state of their health on each occasion, the number of their pregnancies including abortions, and the prevailing temperament or habit of body of each respectively. The number is altogether too small for any general conclusion to be established upon it, but it may be interesting to note some of the results ascertained. One of the first things apparent from this limited inquiry is, that the hereditary influence determining the period and character of the principal constitutional changes at certain critical stages of life, seems to become more marked or to be developed as life advances, members of the same family being more assimilated to each other in disposition and morbid susceptibilities towards the close of life than they appeared to be in youth.

: "Thus, the individuals represented by numbers 24 and 25, are mother and daughter, both in respectable circumstance. There was a difference in the age at which puberty was accomplished in each respectively, of seven years and a quarter; each bore a similar number of children, and both ceased to menstruate, equally favorably, at the age of forty-seven. Numbers 31, 32, and 38, are sisters, all married. The two first began to menstruate at 15 and 16¾ years of age, respectively, and ceased finally, without difficulty, at the age of forty-eight: each bore a large family; the last began to menstru-

ate at twelve years of age, was never pregnant, and finally ceased at the age of forty-nine and a half. Numbers 37 and 42, are sisters; there was a difference between them of four years in their first menstrual changes, and of one only in their last: both are mothers of families. Numbers 46 and 47 are also sisters; there was a difference in their ages at the time of their first menstrual change of four years and a half; the first bore nine children, the second was never married: both ceased to menstruate at fifty.

"In like manner certain forms of disease, occurring in different individuals of the same family, appear to become more nearly allied in their seat and character in late, than they were in early life. Of the mother and daughter, constituting the first group noticed in the preceding paragraph, the first was afflicted with asthma, which always became particularly distressing during pregnancy, but without interfering injuriously with the process of gestation; her daughter was perfectly free from this complaint in the early and middle periods of life, but suffered constantly from hœmorrhoids: to the latter affection, and occasionally to asthma, both became equally liable after having ceased to bear children. The first of the third group suffered severely during each pregnancy from tic-douloureux and megrim; an ailment which her sister did not experience until after the child-bearing period, when both became similarly affected. The two indicated in the fourth group, consisting of an unmarried and a married sister, are members of a gouty and dyspeptic family. The first was a great sufferer during the middle part of life from painful digestion, headach, and hœmorrhoids; the other was comparatively free, during the corresponding age, from these complaints, except the last mentioned, with which, together with other symptoms, she was troubled during each pregnancy. Both are now equally the subjects of rheumatism and indigestion."—p. 147–48.

It likewise appears that when the change occurs at a late period, the liability to disease is greater than when it occurs at an early period—the ratio in the former case being one in three, in the latter one in four. The number of pregnancies, as might be expected, is greater among those in whom the change is delayed, but the abortions are fewer; puberty is accomplished about six weeks later, and less favorably.

Diseases of the last menstrual crisis.—The period in ques-

tion is fraught with anxiety to the female, and not without reason, as it is one of peculiar danger. The susceptibility to disease is perhaps greater at this period than at puberty; the influence of causes, many of them long in slow and silent action, becomes manifest in the inconvenience, the prolonged suffering, and sometimes the fatal issue of the last menstrual crisis. The tabular statement just referred to shows that twenty-three out of sixty-nine women, or thirty-three per cent., required active medical assistance for difficulties accompanying the cessation of the menses; and the cases marked "favorable" were not all equally so.

The forms of disease most commonly met with are classed by the author, for the sake of convenience, according to the character of the discharge which accompanies them. The arrangement does not include disease of the ovaries and Fallopian tubes, nor polypous and fibrous growths, calcarious deposits, nor malignant affections, except as these may implicate the lower orifice of the womb.

"The *first*, and most common of these affections, is characterized by a muco-purulent discharge from the vagina, generally denominated *leucorrhœa*, or the whites; but which differs from simple leucorrhœa in several important particulars; the *second* is often accompanied by vaginal hœmorrhage, the discharge differing, both as to its properties and in its source, from the menstrual product; the *third* form is characterized by a watery, sanious, serous, or ichorous discharge, which is sometimes mixed with blood, sometimes with pus, mucus, or albumen-like shreds, and occasionally with small portions of fleshy matter, the product of the organic change upon which it depends. It generally emits an offensive odor."—p. 149.

If a female affected with muco-purulent discharge be examined with the speculum, the cervix or body of the uterus will be found in a state of hypertrophy, and one or both *labia* ulcerated. Sometimes thereis induration of the anterior *labium* which, when much enlarged, projects downwards, and generally exhibits an abrasion or ulceration extending upward towards the inner cervix; sometimes both *labia* are indurated,

with or without abrasion, and often with an ulcerated fissure more or less deep occupying the *commissuræ labiorum.*

The author illustrates the mode of treatment by quoting a case of purulent discharge occurring after cessation of the menses, in connection with dyspeptic symptoms, and presenting on examination hypertrophy and induration of the *cervix uteri*, with a granular condition of both *labia*, and ulcerated fissure of the commissures. The treatment consisted in a mild alterative and anodyne dose* at bed-time, with a tonic and aperient draught† twice a day, and the application of a strong solution of the nitrate of silver (ʒi. in ʒiij of water) to the ulcerated surfaces at intervals of five or six days. The pills were continued until ptyalism was induced, about the twelfth day; at the end of five weeks the patient was considered well, but was directed to continue the draught, and to use occasionally an injection of the *liquor plumbi* combined with opium.

Another appearance occasionally found is a ring of intense redness around the margin of the mouth of the womb, the body of which is painful on pressure and enlarged. This ring is a sure indication of inflammation of the lining membrane of the uterus, or *endo-uteritis.* Endo-uteritis may occur at any period of life after puberty; when occurring at a late period it generally assumes the chronic form; and is always attended with suffering and inconvenience, and frequently with danger.

"It consists in inflammation of the lining membrane of the *uterus*, of which sometimes a portion only, but more frequently the entire surface, is implicated. It almost always extends throughout the *cervix* to its lower aperture; occasionally it is continued along the Fallopian canals to their outer extremities, and thus, in some instances probably, it may be a cause of disease, of a still less manageable character, affecting these

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*℞. Camphoræ, gr. v.
Pil. Hydrarg. gr. iv.
Pulv. Opii, gr. j.
M. ft. pil. iij. pro dosi.

†℞. Decoct. Cinchon. ʒiss.
Ext. Taraxaci, gr. xv.
Magnes. Sulph. ʒi.
M. ft. haustus.

and the neighboring appendages. In the acute form, in its first stage, a quantity of glairy or ropy mucus is generally thrown off, which, after a short continuance, is succeeded by a sanious or purulent fluid of darker hue. There exists, at this stage of the complaint, a peculiar disposition to exudation of plastic lymph, which, under some circumstances, becomes organized; being exfoliated and expelled in a membranous form, accompanied by violent bearing down pains like those of labor. This substance, which constitutes the dysmenorrhœal membrane already noticed as a condition connected with disordered menstruation, is most frequently observed in women before the commencement of child-bearing; but it also happens under other circumstances. * * * *

"The discharge is purulent or sanio-purulent; occasionally it is ichorous and slightly offensive. In some cases, it exists several years before the cessation of the menses. It may owe its origin to circumstances attendant upon the last pregnancy, especially if this happen to have terminated prematurely, or if the labor have been difficult, or the recovery protracted. It very frequently has its origin in gonorrhœal contamination.

"The body of the uterus in cases of *endo-uteritis* is somewhat enlarged, and painful under the pressure of the finger; the cervix is slightlyhy pertrophied, but not so painful as the upper part of the organ, and it is generally free from abrasion. The only evidence of the existence of the disease, capable of being revealed by the speculum, is the presence of the bright red ring surrounding the verge of the os uteri, together with the escape therefrom of the characteristic fluid product; or of a small quantity of blood, which by becoming incorporated with the vaginal mucus in its transit outwards, appears at the *os externum* in the form of *sanies.*

"The symptoms of this disease are: rigors and febrile excitation, which varies in intensity according to the severity of the local inflammation, or the peculiar constitutional susceptibility of the individual; lassitude; sense of fullness, weight, and tenderness of the hypogastrium; fixed pain in the inguinal region, occupying one or both sides; disordered digestion; irritable bladder; spinal irritation, and convulsive affections."—p. 154–5.

In the treatment of this affection, Mr. Whitehead recommends leeches to the hypogastrium and over the upper part of the sacrum, with the exhibition of alterative and anodyne,

and tonic and aperient remedies, similar to those mentioned on the preceding page. At a later period when febrile excitement has been subdued, a more decided tonic treatment will be efficacious; and he also speaks favorably of injecting into the uterus a weak solution of the nitrate of silver combined with the extract of conium, or of introducing into it an ointment of the same materials.

The diseases attended with hemorrhage are most apt to occur in females of a full habit, who have been subject to biliary derangement, asthma, piles, visceral obstructions, and varicosis of the lower limbs and about the pelvis during pregnancy. The lower portion of the uterus is in a state of congestion, and the distended veins readily take on the ulcerative action, giving rise to more or less profuse hemorrhage, and leaving a varicose ulcer which frequently persists and proves troublesome. The author cites a case in illustration of this variety of disease. The treatment adopted is similar to that already given as applicable to endo-uteritis. Leeches were applied to the hypogastrium, and solid nitrate of silver to the ulcer and the whole of the lower part of the uterus, and calomel with opium was given until slight ptyalism was induced. The patient also took *decoct. sarsæ comp.* with three grains of iodide of potassium three times daily for six weeks. The improvement was marked from the beginning of the treatment.

The loss of blood consequent on ulceration serves to relieve the congestion; but in some instances ulceration does not take place, and then the congestion, extending throughout the organ, leads to uterine phlebitis with abdominal enlargement and great constitutional irritation, or extending still further involves the peritoneum and ends in fatal inflammatory effusion into that cavity. A case thus terminating is cited by the author.

Mr. Whitehead does not enter into the description of the diseases accompanied by fœtid discharges from the vagina. When these discharges appear for the first time at a late period of life, especially if the menses have ceased, the existence of malignant disease may be confidently inferred. They may

be present, however, in connection with various diseases—as endo-uteritis in some of its forms, indolent ulcer of the cervix, warty growths on the vaginal mucous membrane or lower part of the uterus. In these cases the offensive nature of the discharge seems to be partly owing to its retention and partly to imperfect incorporation with the vaginal mucus. The ordinary menstrual product in some women is offensive from the same cause.

The signs of pregnancy are discussed in the fifth chapter, comprising forty-five pages. The author's account of these signs being for the most part familiar to the reader, we shall hurry over it.

Great stress is laid on the alterations in the mouth of the womb from the time of conception until the middle or end of the fourth month when auscultation becomes available. We quote the description of these alterations. It should be premised that the characteristic feature of the unimpregnated uterus is the *linear form of the orifice*, the labia at the same time being in apposition, and their margins smooth, even, and without indentation; in the *virgin* uterus the two extremities of the linear orifice are turned slightly backwards. These appearances as well as those about to be described are illustrated by woodcuts.

1 "It was before stated that, during menstruation, the labia uteri were in a state of high vascular turgesence, and the os tincæ, although elongated, and having its boundaries somewhat relaxed, was nevertheless closed and linear, except during the escape of the small menstrual clots before noticed. At the time of conception, the parts are thrown into a precisely similar condition; but no escape of fluid occurs to relieve the turgesence, which consequently continues to increase. In from ten to twenty days afterwards, the whole organ is found considerably enlarged, and the circulation through it augmented both in force and volume; the labia are thickened and apparently elongated, the commissures less distinct, and the *os* appears to be sunk in, or dimpled, owing to the distension and consequent projection of the labia below the level of the orifice. In the fourth week, the labia at the centre of their margins, are per-

manently separated to the extent of one or two lines, and the os tincæ, which was before a mere chink with parallel boundaries, is now seen to be an elliptical, or sometimes rounded aperture, which is occupied by a deposition of transparent, gelatinous mucus. At six or eight weeks it becomes decidedly oval, or irregularly circular, with a puckered or indented boundary, having a relaxed or lobulated character."

"These changes of form of the lower uterine orifice are evidently owing to distension of the surrounding textures, caused by the increased flow of blood into their structure. The whole circumference of the cervix is enlarged in all it dimensions; the labia become less and less distinct by the simultaneous expansion of the commissures, so that at the stage above-mentioned the existence of the latter is altogether obliterated. After this period, the parts present a great variety of appearances, depending principally upon the state of the circulation through the uterine veins. The characteristic trait, however, is always maintained: namely, the patulent state of the orifice, occupied by a transparent gelatinous plug of mucus, and its relaxed, irregular boundary."—p. 186–87.

In reference to this characteristic trait, a circumstance must be noticed which might possibly lead to error where the state of the uterine mouth alone is referred to as an evidence of pregnancy.

"The gelatinous plug which occupies and appears to distend the cervix from an early period after conception, does not remain in that cavity unrenewed: it is always in process of being replaced by a new secretion which is constantly going on; the old deposition being at the same time pushed downwards and dissolved, as it descends, in the vaginal mucus; but in so small a quantity as to escape the notice of the patient under ordinary circumstances. Sometimes, however, the action of the parts is suddenly increased, and the character of the secretion changed. The cervical plug is thus not unfrequently thrown off in a mass, leaving the cavity which contained it unoccupied, and in some measure collapsed, and the external labia fall together. This state of matters, however, is only of temporary duration, as a new supply of mucus is soon furnished, and the cervix becomes distended as before: but if an examination should be instituted at such a juncture, the prac-

titioner, not being aware of the contingency, may be easily led to an erroneous conclusion."—p. 190–91.

After a pretty full discussion of the value of the principal signs of pregnancy, Mr. Whitehead concludes with the presentation of "three very distinct and unequivocal phenomena which, invariably present during pregnancy, are never perfectly simulated under any other condition of the body, whether healthy or diseased."

"The first, and most important of these, is the double *battement*, being a peculiar sound produced by the pulsation of the fœtal heart communicated to the ear of the examiner upon its application, mediately or immediately, to the surface of the abdomen; the second, is the placental soufle, said, in some instances, to be closely imitated by pressure of morbid growths upon the large deep-seated arterial trunks of the abdomen and pelvis; but which, under all cirsumstances, I believe to be a sound *sui generis;* the third, consists in an altered state of the os uteri, which, previously a mere chink or fissure, having, in the virgin uterus, reverted extremities, and being bounded behind and before by even, linear margins, becomes an irregularly rounded or oval, patulent orifice, which is occupied by a plug of transparent, gelatinous mucus; and surrounded by a soft, flabby uneven, lobulated margin, indentated with a number of shallow unbroken fissures of varying shapes and dimensions. The characteristic change in the form of the *os* is owing to hypertrophy of the uterine walls and dilatation of its cavity; and especially to infiltration into the sub-tissue of the labia uteri, causing distension of its cells, and also to a varicose state of the veins ramifying upon this part of the organ. The boundary of the *orificium uteri* is thus made to appear of nearly equal thickness on every side, and the distinction between the anterior and posterior labium, before marked by the contracted portion forming the commissures on each side, is, for the time, almost if not entirely lost. This organic change is probably the only sign by the aid of which pregnancy can with certainty be declared to exist, during the first twelve or fifteen weeks of the process. The two first named manifestations become available only after this period; the fœtal heart beating as yet too feebly, and the uterine circulation being not sufficiently concentrated, to be audibly recognised. Towards the end of the fourth nonth, however, even before the

uterus has ascended beyond the upper boundary of the pelvic cavity, these sounds cannot fail of being recognised if the examination be conducted with due care, and the child be living."—p. 213–14.

The phenomena of *menstruation during pregnancy* has attracted the attention of observers in all ages, and different views have been entertained concerning the nature and source of the discharge. The author submitted a number of such cases to examination with the speculum, and invariably found inflammation or ulceration of one or both labia, or of the cervix uteri, sometimes with warty excrescences on the cervix or some part of the vaginal mucous membrane. All the patients had leucorrhœa, the product of which communicated yellowish stains to the linen, and exhibited alkaline properties —evidences conclusive as to its purulent character. Fifteen were examined with the speculum during the alleged menstrual flow:

"In not one of these did any fluid whatever escape from the interior of the uterus; the orifice being completely occupied at the time by a plug of transparent mucus. On removing the accumulated secretion by means of a piece of lint, the parts were immediately afterwards covered by a coating of blood, which was distinctly seen issuing from innumerable pores on every part of the diseased surfaces, and soon being in sufficient quantity to trickle down into the speculum. This blood was widely different, in its sensible properties, from that collected in the tube during its introduction, or at the os externum; being more florid, more strongly alkalescent, and soon subsiding into a dryish clot, which could be separated from the interior of the instrument in form of a small cake of crassamentum. This was never the case with the former, which remained fluid or soft, for a considerable time."—p. 203.

This evidence the author thinks sufficient to establish the general rule to which he has yet met with no exception, that the blood in these cases "is furnished, not by the lining membrane of the uterus, nor by any healthy secreting surface, but by the lower extremity of the uterus external to its cavity, or by the contiguous vaginal reflection, being in a state of suppu-

rative inflammation." Where specular examination is not permitted, an inspection of the patient's linen will suffice to show the fact here stated. Thus this kind of menstruation may well be termed *spurious*, as it is in the former part of the volume.

The sixth chapter is devoted entirely to the *statistics of abortion*, and with it begins that portion of the treatise more particularly indicated by the title.

The duration of the child-bearing aptitude is not commensurate with that of the child-bearing capability. The latter corresponds to the menstrual term of the female, which as already stated extends on an average from the age of fifteen and a half to that of forty-seven and a half years. During the last five or six years of this term the reproductive function seems to be quiescent. Thus a table of 38 females gives 47·54 years as the average time of the last menstrual crisis, and 41·73 years as that of their last confinement, leaving a period of six years during which no conception occurred, although the menstrual function was properly performed and the health good. A like period of quiescence seems to obtain in the beginning of the menstrual term: a tabular statement comprising 541 females, gives 21½ years as the average age at which child-bearing commenced. But in the latter case this quiescence is owing not so much to want of fitness in the organs to perform the office for which they were designed, as to the custom prevalent among the higher and middle classes of discouraging early matrimonial alliances. The author himself inveighs strongly against early marriages, and refers to them much of the squalid wretchedness met with in the large manufacturing towns. A large proportion of the population in these towns consists of Irish peasantry (the finest in the world, as O'Connell used to say,) and it is among these especially that the custom prevails. Mr. Whitehead thinks that much of the misery of that unhappy people at home is owing to the same cause. We quote here from a note a picture of the state of things among the poor Irish residents in the manufacturing districts; it is somewhat out of place, but

will prove interesting. The subject has attracted a good deal of attention from British writers and even from the British Government in the last few years, and we have read accounts much more highly colored than that of our author.

"Marriages in the fifteenth and sixteenth years of age, are constantly taking place amongst them; not suddenly and by stealth, as might be supposed; but openly, deliberately, with the previous knowledge, if not with the approbation of the parents; and under the sanction of a solemn religious ceremony.

"The future prospects of these 'candidates for happiness,' and of the generation immediately forthcoming, may be faintly shadowed out by taking a view of the state of moral and religious culture to which they have arrived at this important era of their lives. They have been trained up under the guidance of parents whose early lot was similarly cast with their own; and who, by the time their first-born is thus launched upon the world—not put out to learn a business, but married—have attained to the decent and discreet age of thirty to thirty-five years, having already a family of from six to ten or twelve children.

"In nine cases, at least, out of every ten, neither party can read nor write. The juvenile husband, if fortunate enough to be in employ, holds a precarious situation by which he probably earns from six to ten shillings per week, and the wife realizes perhaps six or eight shillings more. But want of employment does not deter them from entering into the bonds of wedlock, provided they can obtain sufficient money to pay the marriage fees. If employed, however, the young couple live in comparative luxury for some weeks, or months, until by sickness or other misfortune, or the contingencies of child-bearing, their supplies are cut off, and thus they become reduced at once to a state of pauperism.

"Their household expenses are very trifling, and these discharged, the rest of their earnings is spent upon articles of daily consumption. Provision for the following day, or even for the following hour, never seems to form the subject of thought. They are content to lodge in the same cellar or garret with their parents and family, or with other parties; they share the same litter of straw or of shavings with other couples similarly circumstanced; they participate in the same domestic conveniences, the extent of which is somewhat singular and interesting. No furniture adorns the apartment

where they live, beyond one or two chairs or stools, and a sort of table. There is a corresponding supply of culinary utensils: one or two knives and forks, one or two spoons;—for the purpose of glossological investigation, I have frequently been unable to procure a fragment of either, except from the house of a neighbor;—there is a very scanty supply of earthenware; and a single tin vessel is made to serve many purposes, besides that of a cooking-pan.

"In many instances, the floor of the room is never washed, or even swept: the fire place is never cleansed; and the ashes remain unremoved, except when the fire will no longer burn. The walls are never white-washed. Some time ago I made particular inquiries upon this subject, of parties occupying several streets of houses in a district known by a name which indicates the origin of a great proportion of its inhabitants. Amongst them were individuals who had resided upon the property for a period of from twelve to twenty years, and not one could be found who remembered any of the houses being either whitewashed or painted. The walls and ceilings were worse than black, and stained by thousands of marks of slaughtered vermin which had been crushed with the finger, or pursued with the flame of the candle, as they crawled along upon the mortar. The stench in most of these places was pestilential and suffocating. A pig, not unfrequently, occupies a corner of the apartment where the inmates eat, sleep, and cook their victuals.

"The individual condition of these people is much in keeping with that of the places they inhabit. They are extremely inattentive to personal cleanliness. They seldom properly cleanse their skin, and perhaps never extend the process beyond the part immediately exposed to view. Their linen is worn for an indefinite period without changing or washing. I have frequently witnessed a garment worn, unchanged, until it has fallen from the person in tatters. During the disasters of sickness, and especially during the puerperal period, the articles of dress nearest the skin become absolutely putrid. The whole drapery about the bed is literally saturated with filth, and alive with vermin, which are suffered to crawl unmolested in numbers beneath the eye; and the emanations are overpowering.

"In the economy of house-keeping their deficiency is most humiliating. What knowledge, indeed, can be expected to be possessed by a creature who has been employed from home since the age of eight or nine years, for twelve or fourteen hours daily, and has never even witnessed any of the pro-

cesses of cooking beyond that of brewing a cup of tea, or boiling a potato. Their diet consists principally of dried fish, potatoes, and bread, and of expensive (comparatively expensive) ready-cooked articles procured from the shops. The meal is never set forth in order upon a table; but distributed immediately from the pan or the smouldering ashes, as it approaches a state of edibility; his share of the morsel being seized by each and consumed after his own fashion. Of the idea of 'family circle' and 'fire-side enjoyment,' they are utterly unconscious. The meal, such as it is, being finished, an adjournment to the dram-shop is a very common practice; and the intoxicating liquor is often poured down the throats of children five or six years old.

"They have no idea of the use of the loaf except while it is new, regarding it as useless or fit only for the pig when stale. Pieces of the finest bread consequently, are often seen scattered about the sick room in quantity sufficient to furnish one of the most suitable articles of diet that the invalid could desire, if only a little trouble were bestowed in preparing it. Arrow-root, sago, and other nutritious articles are occasionally supplied from some of the medical Institutions; but, in general, they lie neglected and untouched, and are ultimately thrown away for want of knowing how to prepare them for use. Yet is a demand being constantly made by the patient or those about her, for something nourishing; referring always to wine or spirituous liquors."

It is difficult for one born and brought up in this country to conceive a state of such moral and physical degradation.

But to proceed with our analysis. The actual duration of the child-bearing period according to the author's statistics is about 20 years, or from the age of 21½ to that of 41½. By interrogating more than two thousand married and pregnant women, an abstract of whose histories is embodied in a tabular form, it appears that the average number of pregnancies for each individual during the procreative aptitude is about twelve, or one in every twenty months. This includes abortions, which term we should have before stated Mr. Whitehead uses in its widest sense, embracing "false conceptions" as they are called, premature deliveries, in fact all cases of pregnancy having an unsuccessful issue. The abortions, he ascertained, are a little more than one and a half for each female, or

to state it generally, every seventh pregnancy terminates prematurely. The table further shows that on an average more than 37 per cent. of mothers abort before the age of 30, and 87 per cent before the last menstrual crisis.

Mr. Whitehead's observations do not warrant the popular belief that the first pregnancy is most apt to be unsuccessful. He thinks that the third and fourth and subsequent pregnancies, and one or two of those occurring near the termination of the fruitful period, are most commonly unsuccessful.

An examination of 602 women in reference to the period of pregnancy at which premature issue occurred, sustained the well known fact that the third and fourth months are the most critical: 275 aborted at the third, 145 at the fourth month. The author refers to the altered anatomical relations of the uterus and adjacent viscera for an explanation of this fact. These altered relations are connected with some pathological states to be mentioned presently.

These tabular statements and the array of figures contained in them have a most imposing appearance, but the intelligent reader will bear in mind that the results are true only of the number from which they are drawn, and that the same or a greater or less number taken elsewhere, or a greater or less number taken from the same place, might furnish very different results.

Causes of abortion is the title of the seventh chapter. These causes are generally divided into those originating with the mother and those originating with the fœtus and its appendages. Morbid states of the ovum and its appendages in five out of every six instances as they appeared to the author, were found to depend on organic disease of the uterus, or at least to have been preceded by it. Of 1222 abortions occurring among 2000 women, 911 were attributed to "inward weakness," this term being applied to leucorrhœa, the pathological cause of which is structural lesion of the lower part of the uterus. In 378 cases carefully examined as to the cause, the result was as follows: accidental agencies, 44; placenta previa, 8; constipation of the bowels, 3; retroversion of the uterus, 3; incurable disease, 1; vascular congestion, 15; dis-

ease of the lower part of the uterus, 275; obscure causes, 29.

Functional impediment of the bowels, leading to accumulation of the feces in the third turn of the colon with flatulent distension of the bowel immediately above, is a very frequent cause of complaint in the early months of pregnancy.

"During the fourth month of pregnancy, the uterus acquires a size sufficiently large to occupy completely the cavity of the true pelvis, and exercises, while in this situation, an unwonted and constantly increasing pressure upon all the surrounding viscera. The rectum especially, is liable to suffer from this mechanical impediment. At first, the efforts to evacuate the bowel are ineffectual, a portion of the mass prepared for expulsion, being detained on each occasion, above the seat of pressure, and the accumulation is daily augmented. The more liquid parts of this are soon removed, partly by absorption, and partly by escape downwards; the rest becoming dry and indurated, and immovable by the ordinary functional agency." —p. 234.

The accumulations are sometimes enormous. One of the author's patients discharged in the course of three or four days fifteen or twenty pounds of hardened feces; and miscarriage finally happened before the intestinal canal was freed. The symptoms attending this accumulation are, distension and tenderness of the abdomen, which is attributed to flatulence; constant inclination to relieve the bowels; thin and scanty discharges accompanied with violent straining efforts. These straining efforts soon involve the uterus, which becomes affected with intermittent expulsive pains. The abdomen in the middle term of gestation is sometimes as large as it ought to be at the full term. The secretions become vitiated, the circulation quickened, congestion of the uterus takes place, and frequently hemorrhage of an alarming character occurs. The treatment of these cases is so obvious that we need not dwell upon it.

Congestion of the uterine circulation, unconnected with mechanical impediment, is met with in a little more than one out of every twenty-five cases of abortion. It usually occurs af-

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Causes of abortion is the title of the seventh chapter. These causes are generally divided into those originating with the mother and those originating with the fœtus and its appendages. Morbid states of the ovum and its appendages in five out of every six instances as they appeared to the author, were found to depend on organic disease of the uterus, or at least to have been preceded by it. Of 1222 abortions occurring among 2000 women, 911 were attributed to "inward weakness," this term being applied to leucorrhœa, the pathological cause of which is structural lesion of the lower part of the uterus. In 378 cases carefully examined as to the cause, the result was as follows: accidental agencies, 44; placenta previa, 8; constipation of the bowels, 3; retroversion of the uterus, 3; incurable disease, 1; vascular congestion, 15; dis-

ease of the lower part of the uterus, 275; obscure causes, 29.

Functional impediment of the bowels, leading to accumulation of the feces in the third turn of the colon with flatulent distension of the bowel immediately above, is a very frequent cause of complaint in the early months of pregnancy.

"During the fourth month of pregnancy, the uterus acquires a size sufficiently large to occupy completely the cavity of the true pelvis, and exercises, while in this situation, an unwonted and constantly increasing pressure upon all the surrounding viscera. The rectum especially, is liable to suffer from this mechanical impediment. At first, the efforts to evacuate the bowel are ineffectual, a portion of the mass prepared for expulsion, being detained on each occasion, above the seat of pressure, and the accumulation is daily augmented. The more liquid parts of this are soon removed, partly by absorption, and partly by escape downwards; the rest becoming dry and indurated, and immovable by the ordinary functional agency." —p. 234.

The accumulations are sometimes enormous. One of the author's patients discharged in the course of three or four days fifteen or twenty pounds of hardened feces; and miscarriage finally happened before the intestinal canal was freed. The symptoms attending this accumulation are, distension and tenderness of the abdomen, which is attributed to flatulence; constant inclination to relieve the bowels; thin and scanty discharges accompanied with violent straining efforts. These straining efforts soon involve the uterus, which becomes affected with intermittent expulsive pains. The abdomen in the middle term of gestation is sometimes as large as it ought to be at the full term. The secretions become vitiated, the circulation quickened, congestion of the uterus takes place, and frequently hemorrhage of an alarming character occurs. The treatment of these cases is so obvious that we need not dwell upon it.

Congestion of the uterine circulation, unconnected with mechanical impediment, is met with in a little more than one out of every twenty-five cases of abortion. It usually occurs af-

ter quickening, from the end of the fourth to the eighth month of pregnancy. The symptoms are, immoderate and painful distension of the abdomen, with pulsations over the whole cavity synchronous with the heart's action, sense of weight and bearing down, pains of the loins intermitting like those of labor, and occasional discharges of blood from the vagina. There is likewise distension of the pudic, spermatic, hemorrhoidal, and pelvic veins, and sometimes of those of the lower extremities. The vagina is found hot and turgid, and the neck of the womb tumid and varicose. As was remarked in speaking of the diseases of the last menstrual crisis, if this state continues unrelieved local phlebitis may take place ending in varicose ulceration of the uterine neck, or the phlebitis may be more general, leading finally to fatal inflammation of the peritoneum. Mr. Whitehead records an interesting case of a woman in whom five abortions had occurred in succession, each preceded by distension of the abdomen, pain of the loins, piles, swelling of the *labia pudendi*, throbbing of the hypogastrium, and convulsive struggles of the *fœtus in utero*. In the sixth pregnancy, being again threatened with abortion, she came under the care of the author, who met the symptoms by venesection, rest in the recumbent posture, and anodynes. These were successful a second and a third time in the same pregnancy, and the patient was delivered of a still-born child near the end of the full term. The same symptoms recurred at the fifth and seventh months of the seventh pregnancy, and were relieved by similar means, the child being born alive at the end of the full term. The author was equally successful in the conduct of the eighth and ninth pregnancies, although some of the symptoms were more severe. In the eighth pregnancy especially, the hemorrhoidal tumors formed a large external mass extremely painful, and neither local nor general bleeding, nor lotions, nor fomentations, nor medicine administered internally afforded any relief. At length a solution of the nitrate of silver was applied, the pain ceased in a few hours, and on the second day the tumors were shrivelled and callous. The relief was so complete and instantaneous that

the question of the author's integrity became a matter of serious discussion among the patient's friends, who inquired why this means had not been earlier adopted.

The hemorrhage attending uterine congestion during pregnancy may be confounded with that which almost invariably accompanies premature separation of the ovum, and as such separation even when partial is looked upon as fatal, means are frequently taken to facilitate expulsion when the vitality or integrity of the ovum is yet unimpaired. Such cases, according to the author, are frequent. He records two, in one of which six pregnancies had terminated in abortion, but the seventh attended with similar symptoms resulted favorably, the speculum having shown that the blood proceeded not from the interior of the uterus, but from the lower extremity of the cervix which was the seat of varicose ulcer. In many cases where premature separation of the ovum is suspected, a specular examination may lead to gratifying results.

The symptoms indicating *disease of the lower part of the uterus* (which it will be remembered was present in 275 out of 378 cases of abortion) are divided into the *pathognomonic* and the occasional or accidental.

"Of the former class are: 1. Leucorrhœal discharges, whether these be simply of a mucous character, or mixed in variable quantity with pus, sanies, or blood,—provided the latter be not the natural product of menstruation; accompanied, 2dly, with an indefinable, deep-seated aching of the lower belly. 3dly. A fixed pain of peculiar character, on one or both sides of the body near the groin, occupying the situation of the inguinal canal, and being, generally, unaccompanied with swelling. 4thly. Aching of the loins, implicating the region of the kidneys and upper part of the *os sacrum.* 5thly. An involuntary and uncontrollable inclination to compress the lower abdominal viscera, by an effort which is expressively denominated 'bearing-down.' 6thly. Rigors, lassitude, and remittent feverishness."—p. 250.

1. *Leucorrhœa.*—This has already been mentioned as characterizing a form of disease of the uterus towards the last

menstrual crisis. In the pregnant female it is extremely frequent. Mr. Whitehead made inquiries of two thousand females in the pregnant condition and found that 1116 were at the time suffering with leucorrhœal complaints, while of the remainder a considerable number had suffered at a former period. Two distinct forms are noticed, one having the prevailing properties of the ordinary vaginal secretion, and termed mucous leucorrhœa; the other, mixed with more or less of pus, sanies, or blood, and termed purulent.

Of the *mucous* leucorrhœa there are two varieties: the first is a *transparent, glairy* fluid like white of egg, communicating no stain but only hardness to the linen when allowed to dry upon it; decidedly *alkaline* when collected from the mouth of the uterus, but less so when taken from the os externum, and even acid if mingled with much vaginal mucus. It is furnished by the internal surface of the uterus, especially the cervical portion, and constitutes the true uterine catarrh; sometimes it is derived from the vaginal mucous membrane immediately adjacent to the cervix uteri. It indicates high vascular excitement, but no suppurative action of the parts whence it issues; and may supervene on exposure to cold, errors in diet, or sexual excitement. The symptoms usually attending it are febrile irritation, lumbar pain, bearing-down, and physical depression. Occurring during pregnancy, the symptoms are much more urgent, and are frequently followed by abortion. The vagina is hot, tumid, and pulsating, the mucous membrane near the uterus injected, and the boundary of the os uteri vividly red. This variety of leucorrhœa seldom requires local treatment, the constitutional being sufficient. The second variety is an *opaque* white discharge, cream-like in consistence, *not glairy*, and *intensely acid.* It is frequently abundant, and attended with symptoms of general feebleness, such as œdema of the extremities and sometimes of the face, great lassitude, palpitation, and anemia. In addition to the general treatment, which should consist of tonics, local applications will be found serviceable, the best being a solution of one scruple of nitrate of silver in half a pint of distilled

water. This variety of leucorrhœa is the product especially of the mucous membrane of the vagina; the vagina is often much relaxed, the vulva being at the same time edematous and the seat of a troublesome and obstinate pruritus. Mr. Whitehead found the latter symptom promply relieved for a time by the following lotion:

℞. Acidi Hydrocyanici, m. lx.
Morphiæ muriat., gr. viij.
Aq. Destillatæ, ℥viij: misce, fiat lotio.

Purulent Leucorrhœa is more frequently met with during pregnancy than the preceeding. Out of 1116 pregnant women suffering with leucorrhœal discharge, in 936, or 83 per cent., it was purulent. This form is always indicative of suppurative inflammation; it varies in color from light yellow to dark brown, but is generally yellowish or greenish; stains the linen deeply, the stains not being easily removed; has an alkaline reaction when collected from the diseased surface, but taken from the lower part of the vagina is neutralized or rendered faintly acid by admixture with the vaginal mucus. The kind of disease marked by purulent discharge we have already stated on page 401, and it may be accounted a very common cause of abortion.

Leucorrhœa is rarely purulent or sanious in the single, and is not so frequent in them as in the married. In the latter it first appears a few weeks or few months after marriage. If the female be of an excitable temperament, and have been subject to determination of blood to the reproductive organs, the discharge speedily becomes purulent, and if this happen before impregnation, the latter may be repeatedly frustrated, and delayed for a long period. Uterine disease, however, is developed for the most part during the second and third months of pregnancy, at which time the vascular system of the generative organs is in a state of active congestion. The uterus, Mr. Whitehead remarks, will be found to have encroached considerably upon the lower part of the vaginal canal, where it will be maintained by the increase in its lateral dimensions and the simultaneous turgescence of the surrounding parts—

circumstances to be borne in mind when treating the diseases of pregnancy, especially as it regards the share which the sexual congress frequently has at this particular juncture in preventing a favorable issue. There can be little doubt, the author thinks, that too frequent intercourse in the early months of gestation is in a great number of cases the cause of uterine disease, attended with vaginal discharge, and ending in abortion.

It is a question of no little importance whether leucorrhœal discharges in the female ever produce blenorrhagia in the male; and the author, in all cases where the leucorrhœal discharge is decidedly purulent, answers in the affirmative. For ourselves we have not the least doubt of it, and we believe that at this moment we have a case in point under observation. Mr. Whitehead has witnessed several incontrovertible cases of the kind; he appeals also to examples of purulent ophthalmia, to purulent inflammation of the vagina in the female, and that of the prepuce and urethra in the male infant, where the mother had yellow vaginal discharge previous to delivery. Moreover he put the matter to the test of experiment, by collecting some matter from the surface of a granulating ulcer of the cervix and inserting it beneath the upper eyelid of a dog; violent inflammation of the entire conjunctiva ensued, with copious secretion of greenish-yellow pus. On one occasion some matter of this sort was accidentally applied to a slight wound on the author's hand; the wound became swollen and painful, inflammation of the absorbents leading to the axilla came on, followed by diffuse swelling of the whole arm and of the corresponding half of the face.

2. Deep-seated pain of the hypogastrium is a constant attendant of uterine disease, especially of uterine catarrh and endo-uteritis, being particularly distressing in the latter. It is unaffected by pressure, and is no sooner sought for in one part of the pelvis than it is referred to another, being in fact an affection of the whole pelvis, and having no particular location.

3. The third symptom of uterine disease is fixed pain of

one or both groins, in the course of the inguinal canal, referred especially to the point where the round ligament loses itself in the surrounding structures. It occupies generally a very small space, but occasionally extends from side to side or down towards the mons veneris, labia pudendi, crest of the ilium, or lower half of the recti muscles, corresponding to the ramifications of the musculo-cutaneous, inguino-cutaneous, and external pudic nerves, which inosculate with branches of the hypogastric plexus passing out with the round ligament. In general the seat of pain is not sore, pressure on the contrary being grateful; nor is it affected with swelling. The author, however, has met with one case in which swelling was present, and he satisfied himself that it depended on spasmodic action or cramp of one of the inter-tendinous divisions of the rectus abdominis.

4. Aching of the loins and adjacent parts, including the kidneys, sacrum, crest of the ilium, hips, and thighs, like the preceding symptoms, depends on the connection between the hypogastric nerves passing through the broad ligaments, and the lumbo-sacral, anterior crural, ileo-inguinal, and other spinal nerves. The same anatomical arrangement also explains the "false pains" of pregnancy, and the sufferings in difficult menstruation.

One of the most distressing of this class of symptoms is an acute, smart, stabbing pain of the coccyx, or of the region between the point of this bone and the centre of the perineum. It involves the lower fibres of the sphincter ani, and is accompanied with a compressing effort differing from tenesmus. It is purely sympathetic and arises generally from inflammation or fissured ulceration of the posterior lip of the womb, or ulceration of one of the commissures. A similar pain may be produced by pressure of the gravid uterus on the nervous filaments passing along the surface of the last lumbar vertebra and the face of the sacrum.

5. Connected with the preceding is a dull deep-seated aching of the hypogastrium, aggravated by accumulation of fæces or urine, and alleviated by pressure; the patient finds

relief in the "bearing-down" effort by which the lower abdominal and pelvic viscera are compressed.

6. Rigors, lassitude, and feverishness, in the author's view, point to the contamination of the blood with pus, absorbed from the mucous surface of the uterus.

From the pathognomonic symptoms of uterine disease, we go to the *diseases of the gravid uterus considered as causes of abortion.* The author enumerates ten, and arranges them according as they predispose to abortion in the early or late months of gestation. The arrangement is of course arbitrary, and liable to be modified by future observation. 1. *Inflammation and superficial erosion* of one or both lips and of the cervix externally and internally, are most apt to interfere with the process of gestation in the seventh, eighth, or ninth month. 2. *Varicose ulceration* occupying one or both lips, but for the most part confined to the back part of the anterior, is most troublesome in the latter half of pregnancy, or after the period of quickening. 3. *Edema* of the cellular tissue of the cervix sometimes causes abortion in the latter months. 4. *Fissured ulceration* of one or both commissures, and of one or both lips, with inflammatory hypertrophy, predisposes to abortion from the end of the third to the end of the sixth or middle of the seventh month. 5. *Induration* of the cervix, with or without abrasion: abortion commonly happens in the third and fourth months of pregnancy, and is always attended with considerable suffering. 6. *Endo-uteritis:* abortion in the second or third month, with intense sufferings similar to those of dysmenorrhœa. 7. *Follicular ulceration* sometimes constitutes the leading feature in cases of abortion, though the cause of the latter is rather the structural lesions with which the ulceration is associated. 8. *Gonorrhœal virus* is in all probability frequently applied to the lower portion of the uterus, exciting on the cervix and lips specific inflammation which is particularly liable to be extended to the lining membrane of the organ: abortion from this source is not only frequent, but may occur at any period of pregnancy. 9. *Syphilitic* disease, in all its forms, primary, secondary, and tertiary, may induce

abortion at any period, but perhaps most frequently about the sixth or seventh month. 10. *Prolapsus uteri.*

Mr. Whitehead devotes some space to a description of each of these forms of disease, and records numerous cases by way of illustration. We cannot follow him in all of these descriptions, nor is it necessary as we have already noticed some of the diseases in other portions of this paper. Ulceration of the cervix, or diffuse inflammation of the same part, occurs in about 26 cases of abortion out of a hundred; the varicose ulcer in from six to eight in every hundred. It is remarkable that the active measures required in the treatment of these cases, especially the repeated application of powerful caustics to the uterus, are not only borne without difficulty by the pregnant female, but they are in fact the chief means of securing both mother and child from danger. In the early local treatment of varicose ulcer the author first applies the nitrate of silver in strong solution, reserving the application of it in the solid form until the acute symptoms have been subdued. If hemorrhage is present, and in all cases of passive hemorrhage from ulcerated surfaces, and of watery, mucous, purulent, or sanguinolent discharges from the neck of the uterus, the solution mentioned above, or some of the astringents, as a strong solution of sulphate of zinc combined with *vinum opii*, should be kept constantly applied This may be effected by introducing through the speculum a tent, plug, or pledget of lint saturated with the solution and placing it in contact with the uterus. In from 12 to 20 hours it may be removed, to be repeated as may seem necessary. If a piece of strong thread eight or ten inches long be attached to the tent, it may be readily withdrawn.

Edema of the cervix, depending on a low degree of inflammation, is not a frequent affection, existing only in about one out of twenty-five or six cases. It is found in females of phlegmatic temperament with deficient energy of the circulation, and indicates a tendency to serous effusion into the cellular tissue and serous cavities, The amniotic fluid is liable to be secreted in unusual quantity under these circumstances,

and from the over-distension of the uterus thus produced premature delivery sometimes occurs in the eighth or ninth month of pregnancy. The discharges of watery fluid from the vagina to which some women are subject in the latter months of utero-gestation, are accompanied by this condition of the cervix, the margin of the os uteri often being at the same time vividly red, and the lips excoriated or ulcerated. By means of the speculum the watery fluid may be seen exuding from innumerable pores on the cervix, and sometimes it escapes in gushes as if caused by spasmodic contraction of the uterus. Under this state of the system abortion may also happen from congestion of the placenta or of the uterine sinuses and the consequent effusion of blood or serum separating the ovum from its attachments. The treatment recommended is moderate general bloodletting, practiced at intervals, calomel and digitalis, and saline aperients combined or not with quinine as occasion may require. If any abrasion of surface remain after the edema has subsided, local remedies will be indicated.

Induration of the cervix, the result of chronic inflammation, is generally associated with some other form of disease, especially the fissured ulcer, and rarely exists alone. It may occupy the entire cervix, or be confined to the anterior or posterior lip; when both lips are implicated "they present a *mitral* appearance very much resembling the top of the piece representing the bishop used in the game of chess." Induration, whether alone or connected with ulceration, is a common cause of "habitual abortion," as it interferes with that slow and gradual expansion of the cervix which dates from the third month A painful form of dysmenorrhœa is likewise connected with it. The treatment consists of local depletion, alteratives, and cauterization of the parts affected. The author in one instance found the nitrate of silver too feeble, and substituted the acid nitrate of mercury, under two or three applications of which the induration diminished, and the nitrate of silver was again employed.

Follicular ulceration may accompany any of the morbid

states that have been mentioned, but is most frequently seen along with inflammatory hypertrophy of the cervix. The ulceration is seated in the *glandulæ nabothi.* These are first seen as raised bodies about the size of small peas studding the cervix and varying in number from one or two to twenty. When the number is small they occasionally become prominent and assume a warty appearance. In cachectic habits inflammation followed by suppuration may take place in them, leaving circular cavities, and giving the part a worm-eaten appearance; or two or more follicles coalesce and form an irregular ulcer with callous, overhanging margins. In edema of the cervix the whole surface is sometimes studded with elevated follicular points about the size of a pin-head. These follicles are generally regarded as the source of the glairy, mucous fluid intended to lubricate the cervix uteri and upper part of the vagina; but the author thinks the only fluid they furnish is that accompanying the venereal orgasm.

Mr. Whitehead is of the opinion that *gonorrhœal* affections in the female are rarely perfectly cured, the disease being looked for and treated in the vagina rather than the uterus. He has "almost invariably found the lower part of the uterus inflamed or ulcerated" in gonorrhœa of the female. A large proportion of the cases of simple erosion, fissurated ulcer, and inflammation of the deep-seated textures encountered by him, were attributed to the "bad disorder;" in some the complaint was contracted during the existing pregnancy, in others several years previous. After the acute stage, which is sometimes violent, has been subdued, local treatment should be employed. The nitrate of silver applied a few times directly to the uterus in the solid form, or in strong solution by means of the linen tent as already explained, will generally suffice. Injections as ordinarily used do no good whatever.

Primary *syphilis* is rarely seen on the lower part of the womb, but the secondary form is extremely common, and originates in three different ways: 1. From primary infection that is imperfectly cured, seated on the external genitals. 2. From primary sore on the lower part of the uterus,

but which escapes notice owing to the low degree of sensibility possessed by the uterus. 3. From inoculation with matter of secondary sore in the male. The author is aware that the last mode of origin is contrary to the doctrines prevalent in the profession, and he says that it will probably be disputed Two or three cases are cited in illustration, but further proof is certainly needed. Secondary syphilis is not only equally prevalent in the female as in the male, but is a great deal more disastrous to the former in its consequences, to say nothing of the effects on the offspring. The local pathognomonic signs are thus indicated by the author in the order of their frequency: 1. Inflammation of the lining membrane of the cervix, with inflammation, excoriation, or ulceration of the labia: present in 19 out of 20 cases. 2. Mottled or patchy appearance of the cervix, consisting of dark-red spots irregular in shape; cervix enlarged and indurated: present in 11 out of 28 cases. 8. Apthæ of the cervix, in 8 out of 28 cases. 4. Warts on the cervix or parietes of the vagina, with endo-cervicitis and hypertrophy. Induration or hypertrophy was present in nearly all the cases.

In the treatment of secondary syphilis, the author believes that no substitute has yet been found for mercury, and that much harm has been done in attempting to eradicate the venereal poison without it. If caution be used and the proper preparation be selected, it may be given in any constitution. Among the vegetable alteratives he recommends the dulcamara, the arctium lappa, and the rumex hydrolapathum —the latter highly. Sarsaparilla he considers utterly worthless, and we entirely agree with him. The arctium lappa, with mezereon and dulcamara, is a favorite remedy in this region in all cachectic states.

The subjects remaining to be noticed are prolapsus uteri and sterility, the chapter on the latter being mainly devoted to chronic endo-uteritis with some illustrative cases. We wished very much to notice these, but our space is exhausted, and we most reluctantly take leave of Mr. Whitehead's book, strongly recommending it to our readers as one full of instructive matter. C.

SELECTIONS

FROM

AMERICAN AND FOREIGN JOURNALS.

Application of Chloroform in Typhus Fever —An interesting case of the successful application of Chloroform has just occurred in the Bristol General Hospital. The patient, a female about eighteen years of age, exhibited all the symptoms of a bad case of typhus fever. The usual remedies were tried for a fortnight without any beneficial effect. The unfavorable symptoms continuing, the patient being delerious, and the system in fact worn out for want of sleep, her life was despaired of. It occurred to the physician, under whose care the patient was placed (Dr. Fairbrother), that chloroform being used in operations to produce a sedative effect, if the patient could be kept influenced by it continuously, it would reduce the too rapid circulation of the blood through the lungs, relieve the difficulty of breathing, and thus become efficacious in subduing the excited state of the brain and system, in such cases, or in others of an inflammatory nature. He accordingly tried the experiment, commencing with ten minims, administered in a cup shaped sponge, inclosing the mouth and nostrils, but occasionally admitting atmospheric air. About ten minutes were occupied in the inhalation. The soporific state was induced in a few seconds, and continued for about half an hour. In about four hours the chloroform was again administered, the quantity being somewhat increased, and the inhalation was now continued for half an hour. The patient slept from this time (twelve) to four o'clock. She took a little porter, and again slept till eight o'clock. The application was then repeated, and was continued for several days, the quantity of

chloroform being gradually increased to twenty-five minims, and the time of inhalation to forty minutes, guided in these particulars by the state of the pulse.

No other medical treatment was adopted; the only other means used being the sponging of the body with tepid water, and applying cold pads to the head, the system being supported by beef-tea, porter, wine, &c., and, to allay thirst, toast-and water. The patient recovered; the pulse was reduced from 130 to between 70 and 80; the tongue became clean and moist; the skin cool; diarrhœa ceased; the appetite returned, and the countenance regained its natural aspect.

It is a recommendation of this remedy, that so far from its being disagreeable, the patient after it had been administered a few times, has craved for it.—*Lancet.—Ranking's Abstract.*

A Case of Ununited Fracture treated by Galvanism. By James Burman, Esq., Surgeon, Wrath, near Rotherham.—Mr. Thomas Lister, aged 35, a railway superintendent, of a robust constitution and regular habits, had the misfortune in the summer of 1845, to fracture his leg by being thrown from his gig. The surgeon who attended him seems to have put the limb into a very good position, and every thing appeared to go on well, till, upon removing the splints, it was found that union had not taken place; and as his constitution had suffered partly from the necessary confinement, and perhaps, partly from the want of proper stimulants, consequent upon "teetotal" practice, his surgeon ordered him a more generous diet, and removal to the coast, but still no improvement took place.

He put himself under my care just fourteen weeks after the accident. Upon examination, I found a transverse unuited fracture of the lower third of both tibia and fibula; there was no formation of callus, and the fractured ends of the bones were quite moveable, but could be readily adapted to each other; neither was there any inflammatory action about the parts, although having been advised to rub the two ends of the bones together, he had very assiduously followed that advice. Mr. Guthrie had seen the case a few days before, and recommended Amesbury's splints, a modification of which I at once determined to try, in connection with the application of electro-magnetism, which I had a good opportunity of doing, as my pupil was at that time making some experiments

with a small apparatus. I therefore had a kind of *boot* made for him, of turned sheet-iron, which, when applied, embraced the whole leg, ankle, and foot. This I had well adapted to the limb by means of padding, so as to prevent any lateral motion—an object which was the more readily accomplished, as the fracture was perfectly transverse, and that part of the boot which was directly over the fracture was made to turn back upon a hinge, so that I could at any time get to the injured part, without in the least disturbing the limb.

With this apparatus firmly fixed, and assisted by a pair of crutches, he was directed to take daily exercise in the open air; to partake freely of wine, porter, and animal food; and when sitting in the house, or lying in bed, to have the fractured ends firmly pressed against each other, by means of a broad band passed over the knee, and under the footboard, capable of being tightened by a strap and buckle, the leg being bent at the same time at a right angle with the thigh. This strap was to be removed, and the limb to be permitted to hang down and partially used when taking outdoor exercise. In addition to this, for near half an hour every day an electromagnetic current was made to pass directly through the fracture, by means of needles attached to the two poles of the apparatus, their points being inserted just under the skin, one on each side of the fracture. This plan of treatment was commenced on the 9th of October, 1845; by the 22d, sufficient inflammatory action had been set up to render the further application of galvanism unnecessary; and by the 30th, the deposite of callus was so copious, and the union of the fracture so firm, that at my patient's earnest solicitation I gave him permission to return to his duties, directing him still to wear his boot, and to continue the use of his crutches.

I did not see him again for some considerable time, but he informed me that after the first week he threw away one of his crutches; that the next week he grew tired of his boot, and threw it on one side, together with his other crutch, and went away comfortably about his business, with only a stout walking-stick, which he continued to use for some time; and when I again saw him, one leg was equally as firm and sound as the other, the point of fracture being marked by a thick firm band of callus.

I think I am justified in attributing the great and sudden healthy action which was set up in this case mainly to the influence of galvanism; for while similar cases under the us modes of treatment have, under the most favorable cir stances, required long and tedious attention, this case h

chloroform being gradually increased to twenty-five minims, and the time of inhalation to forty minutes, guided in these particulars by the state of the pulse.

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He put himself under my care just fourteen weeks after the accident. Upon examination, I found a transverse unuited fracture of the lower third of both tibia and fibula; there was no formation of callus, and the fractured ends of the bones were quite moveable, but could be readily adapted to each other; neither was there any inflammatory action about the parts, although having been advised to rub the two ends of the bones together, he had very assiduously followed that advice. Mr. Guthrie had seen the case a few days before, and recommended Amesbury's splints, a modification of which I at once determined to try, in connection with the application of electro-magnetism, which I had a good opportunity of doing, as my pupil was at that time making some experiments

with a small apparatus. I therefore had a kind of *boot* made for him, of turned sheet-iron, which, when applied, embraced the whole leg, ankle, and foot. This I had well adapted to the limb by means of padding, so as to prevent any lateral motion—an object which was the more readily accomplished, as the fracture was perfectly transverse, and that part of the boot which was directly over the fracture was made to turn back upon a hinge, so that I could at any time get to the injured part, without in the least disturbing the limb.

With this apparatus firmly fixed, and assisted by a pair of crutches, he was directed to take daily exercise in the open air; to partake freely of wine, porter, and animal food; and when sitting in the house, or lying in bed, to have the fractured ends firmly pressed against each other, by means of a broad band passed over the knee, and under the footboard, capable of being tightened by a strap and buckle, the leg being bent at the same time at a right angle with the thigh. This strap was to be removed, and the limb to be permitted to hang down and partially used when taking outdoor exercise. In addition to this, for near half an hour every day an electromagnetic current was made to pass directly through the fracture, by means of needles attached to the two poles of the apparatus, their points being inserted just under the skin, one on each side of the fracture. This plan of treatment was commenced on the 9th of October, 1845; by the 22d, sufficient inflammatory action had been set up to render the further application of galvanism unnecessary; and by the 30th, the deposite of callus was so copious, and the union of the fracture so firm, that at my patient's earnest solicitation I gave him permission to return to his duties, directing him still to wear his boot, and to continue the use of his crutches.

I did not see him again for some considerable time, but he informed me that after the first week he threw away one of his crutches; that the next week he grew tired of his boot, and threw it on one side, together with his other crutch, and went away comfortably about his business, with only a stout walking-stick, which he continued to use for some time; and when I again saw him, one leg was equally as firm and sound as the other, the point of fracture being marked by a thick firm band of callus.

I think I am justified in attributing the great and sudden healthy action which was set up in this case mainly to the influence of galvanism; for while similar cases under the usual modes of treatment have, under the most favorable circumstances, required long and tedious attention, this case began

to improve from the very first application of the remedy; within three weeks firm union had taken place, and in less than six weeks the cure was perfect.

The electro-magnetic apparatus that I made use of was a double coil machine, excited by two electrometers, on Professor Daniell's principle. I at first endeavored to establish the current by two small metallic discs, one connected with each pole, and placed on each side of the fracture; but finding that little or no perceptible action was thereby produced, I substituted needles for the discs, and introduced their points in an oblique direction just under the skin, on each side of the fracture, thereby causing the galvanic current to pass directly between the ends of the fractured bone. The moment the circuit was completed by the introduction of the second needle, the sensation was most acute; but in a minute or two the pain became bearable, and the patient was able to sit under it for from fifteen minutes (the time occupied at first) to a good half hour, to which I extended it the last three or four times. —*Prov. Med. and Surg. Jour.—Ib.*

Case of unavoidable Hemorrhage—Successful operation of Transfusion. By Dr. Waller.—The following interesting case occurred in the practice of Mr. Greaves. Hemorrhage appeared to an alarming extent in the eighth month. The patient appearing in a desperate state, Dr. Waller's assistance was requested. He found her in a very unpromising state, with a completely blanched countenance, pale and livid lips, cold extremities, laborious respiration, and a pulse scarcely perceptible; the general surface of the body was also cold. In short, everything indicated approaching dissolution. Stimulants had been freely given, but they failed to excite even a temporary rally. The vagina was filled with coagula; and, as the hemorrhage appeared to have ceased, he did not think it advisable to disturb the clots in attempting delivery. Stimulants were again had recourse to, but with no better effect. The symptoms of exhaustion increased, and nothing but transfusion seemed, under these circumstances, to hold out the slightest chance of relief. Mr. Greaves concurring in this opinion, preparation was made for its performance. The first intention was to have laid bare the vein, and to have had all things in readiness, then to have delivered, and, provided there had been no improvement in the condition of the patient, to have transfused immediately aftewards. A little re-

flection convinced the operators that this plan was fraught with danger; for, had syncope occurred, in all probability it would have been fatal. The operation was, therefore, at once commenced. When about five ounces of blood had been introduced, the amendment was evident; the pulse was more perceptible, and the countenance assumed a somewhat better aspect. The blood now flowed very sluggishly from the arm of the female who supplied it; it was, therefore, determined to wait awhile and watch the effects, nourishment and stimuli being administered occasionally. The rally continued for about two hours and a half, when the female again began to sink, and jactitation supervened; gruel, with brandy, was given without any benefit; the pulse was again but just perceptible, and the body getting cold. Dr. Waller again injected about four ounces of blood from the same individual who had previously supplied it; but this time the symptoms did not improve. The stream issuing from the punctured arm was so languid that it was not thought right to proceed, and a fresh subject was sought to furnish them with a better supply. The husband of the patient being in the room, came forward to their aid; he looked rather pale, and, therefore, they gave him a glass of hot spirits and water, and then opened a vein, from which the blood flowed in an impetuous stream. The first injection of about two ounces produced a marked alteration in the pulse; it became decidedly perceptible. When nine ounces had been injected, the countenance was much improved; there was even a slight appearance of color in the cheeks, and pain in the arm was complained of. Four ounces more were introduced, when all symptoms of immediate danger vanished. There was no faintness afterwards; the surface was warm; the pulse steady, about 100 in the minute; jactitation ceased; and nourishment was retained on the stomach. The only complaint was of excessive fatigue, with an inclination for sleep; there were also a few "grinding pains." Dr. Waller visited her again in about an hour and a half. She had been dozing, and was extremely tranquil; reaction was perfect, and there was no hemorrhage, no tumult in the circulation. He now left the case in the hands of Mr. Greaves, who afterwards informed him that after a sleep of some hours, the pains increased, and he felt a portion of detached placenta in the vagina; this was expelled by the natural efforts. A dead child soon followed, the remainder of the placenta coming away an hour afterwards, without hemorrhage. The mother recovered.

[The failure of the second injection from the original per-

son to rouse the patient when the "stream issuing from the punctured arm was languid," and the instantaneous success derived from the freely flowing blood from the husband's arm, are suggestive of valuable propositions, which should not be lost sight of in practice.]—*Medical Times.—Ibid.*

Symptoms and Treatment of Infantile Pleurisy. By Dr. West.—The main symptoms attending this disease, as well as the physical signs of its existence, are the same at all ages. There are, however, some circumstances peculiar to early life which, unless you are on your guard, may serve to obscure the real nature of the affection. The history of a case of acute pleurisy in childhood, is generally something to this effect:—A child, previously in perfect health, is suddenly attacked with pain referred to the chest or upper part of the abdomen, so severe as to occasion it to cry aloud, perhaps attended, at first, with vomiting of a greenish fluid, accompanied with fever, a rapid pulse, and hurried respiration, interrupted by frequent short cough, which evidently occasions pain, and which, the child labours in vain to suppress. After a few hours, the severity of the pain subsides; but the fever, hurried respiration and cough continue, and the child, though usually it looks heavy, and seems drowsy, yet becomes extremely restless at intervals, and cries and struggles as if in pain, and violently resists any attempt to alter its position, since every movement brings on an exacerbation of its sufferings. The posture which it selects varies much; sometimes its breath seems disturbed in any other than an upright position; at other times it lies on its back, or on one side; but whatever may be the posture, any alteration of it appears to cause much distress, and is sure to be resisted by the patient.

The probabilities are, that if you auscultate the chest of a child in whom these symptoms exist, you will have good breathing through the whole of one lung.—On the other side, the air will be found most likely to enter less freely, though unaccompanied with any moist sound, perhaps unattended with any morbid sound at all; or there may be on this side, a rough sound audible like a ronchus, and for this you may very likely at first take it, though with more attention it will be discovered to be a friction-sound. A day or two later, you will probably detect a sound like that of bronchial breathing, as you pass your ear from above downwards along the posterior part of the chest, while the friction-sound will have disappeared;

and still lower there wi' be an utter absence of all sound. The walls of this side of the chest, if their tenderness does not prevent your trying percussion, will yield a much less resonant sound than usual; while at the same time, a distinct sense of solidity will be communicated to the finger.

I need hardly pursue the detail of other symptoms which are the necessary result of pleurisy, whatever the age of the person in whom it occurs. The diminished mobility of the affected side, the displacement of the heart, the bulging of the intercostal spaces, and the enlargement of the chest on the diseased side, are phenomena that take place under the influence of the same causes at every age, though their occurrence is less frequent in childhood than adult age, since the effusion of fluid is more scanty.

The symptoms by which an attack of pleurisy is ushered in, point sometimes rather to the head than to the chest. The child is seized with vomiting, attended with fever and intense headache; it either cries aloud or is delirious at night, or screams much in its sleep, and, when morning comes, complains much of its head, but denies having any pain whatever in its chest, while the short cough and the hurried breathing may be thought to be merely the result of the cerebral disturbance. The diagnosis of cases of this kind is sometimes very difficult, since auscultation does not always afford the information you might expect.—It often happens that no friction-sound is perceptible, and that you have no other indication to guide you aright besides the feebleness of the respiratory murmur on the affected side. The child, too, fearful to take a deep inspiration, fills neither lung completely, so that to a great degree, you lose the information gained by the comparison of the breathing in one lung with that of the other. Still, the history of the case will do much towars preserving you from error. The onset of the illness has been far too acute, attended with far too much febrile disturbance, for a case of tubercular hydrocephalus, while many of the signs of cerebral mischief which might be expected in a case of simple encephalitis have not presented themselves. The heat of head is not greater than that of the rest of the surface; the cries with which the disease set in have not ended in coma. It happens but seldom that convulsions mark the commencement of the disease; but, if they had occurred at the onset, they have not since returned; neither twitching of the muscles, nor strabismus, nor retraction of the head is present; and, though the child may cry, as children when ill and fretful often do, at the curtain being undrawn, and the

candle brought near it, yet there is no real intolerance of light. The dyspnœa, also, is too permanent, and the short, hacking cough too frequent, for either to be sympathetic of cerebral disorder.

The pain with which pleurisy sets in, is sometimes referred, not to the chest, but to the abdomen, and its commencement may be attended with vomiting and purging. Pressure on the abdomen, too, often causes a considerable increase of suffering, and you may thus be led to regard the case, not as pleurisy, but as intestinal disorder, with fever. In any such doubtful case, it is well to bear in mind that children may, after they can talk, describe the nature and seat of their sufferings very inaccurately; and if, as often happens in these cases, they refer the pain to the right hypochondrium, you should not forget that pain in that situation is at all ages, much oftener connected with disease of the pleura than of the peritoneum; and, lastly, that the increase of discomfort produced by pressure on the abdomen, may have been due to the additional impediment thereby offered to the already laboring respiration.

In most cases of pleurisy in childhood, careful auscultation will preserve us from error. Still, the information that it yields is more limited in the child than in adult age. The evidence afforded by the various modifications of the voice-sound are much less marked, owing to the feebleness of the voice in early life, while we cannot induce the child to speak several sentences, or utter several words in the same pitch of voice, in order that we may find how far the voice is altered. For the same reason, too, we cannot test the difference between the two lungs by the vibration of the voice perceived on applying the hands to either side of the chest—a means by which, in the adult, we are often assisted in determining between a solidification of the lung from pneumonia, and the distress consequent on pleurisy with effusion. Another circumstance which, in the child, increases the difficulty of distinguishing between pleurisy and pneumonia is, that in the latter, children sometimes inspire so slightly as not to produce any crepitation, so that, in both cases, we may have impaired resonance on percussion, with scanty admission of air, and a bronchial character in the respiration, but without any other morbid sound. In the child, too, we lose the very valuable information which the presence of the expectoration in the pneumonia of grown persons affords, when contrasted with the absence of all expectoration as an attendant on the dry cough of pleurisy. With the advance of the disease, doubt as to its

nature is removed; it is at its commencement only that mistake is possible. But even then, and in spite of all the circumstances which have been enumerated as tending to mislead, you will seldom be wrong if you regard as an instance of pleurisy, any case in which symptoms like those of pneumonia having set in suddenly and severely, auscultation fails to detect the crepitus of pneumonia, and discovers only feebleness of the respiratory murmur on one side, with or without a more or less marked bronchial character in the breathing.

But we may now pass to the consideration of the treatment of acute pleurisy in childhood, a subject which need not detain us long, since the age of the patient in no respect alters the principles which must guide our conduct. If seen sufficiently early, and treated with due activity, cases of acute pleurisy in infancy and childhood nearly always have a favorable termination, and in almost every instance that has come under my observation in which the issue of the disease was unfortunate, either all treatment had been neglected till the children were past hope, or the nature of the complaint had been mistaken, or the treatment followed had not been sufficiently active. This last error it is of great moment to avoid, for acute inflammation of the pleura in childhood runs its course with greater rapidity to a more speedy fatal issue than in the adult. Of seven fatal cases of acute pleurisy in childhood, of which I have preserved a record, three ended in death on the sixth day, one on the ninth, one within a fortnight, while one of the remaining two terminated in thirty days, and the life of the child in the seventh case was prolonged for several months.

In almost every case, provided the symptoms be at all urgent, and the child's previous health have been good, general depletion should be resorted to, and you need not be afraid of carrying this first bleeding to syncope, since children generally faint after the abstraction of a comparatively small quantity of blood from the arm. It will be almost always necessaary to follow this up by local bleeding, but it is desirable to wait for three or four hours, in order that you may be enabled to estimate the effect produced by the previous venesection. A second bleeding from the arm is seldom needed, and may almost always be avoided if local depletion be not too timorously practiced. In the acute stage of pleurisy it is better to draw the blood by leeches than by cupping, since the side is often so tender that the pressure of cupping glasses would be unbearable. After depletion, one chief reliance is to be placed on calomel which should be freely given in combination with

opium or Dover's powder. Antimony, which often renders such good service in pneumonia, is here of little use: and though it may somewhat diminish the frequency of the breathing, it exerts little or no influence upon the local mischief. A pleurisy treated thus actively, is sometimes overcome in the course of 24 or 48 hours, so that nothing remains of symptoms which had appeared so formidable. Often, however, after the acute symptoms have subsided, the affected side remains dull, and the respiration scanty for weeks together, and now is the time when the use of blisters, associated with the exhibition of small doses of calomel, will be of most essential service, and will generally effect the complete absorption of the fluid, and the restoration of the patient to perfect health.

This, however, is not always the case; but sometimes, in spite of remedies perseveringly employed, one side of the chest continues full of fluid; and the question then comes before us whether it will not be expedient to let out that fluid by mechanical means. Many most important considerations are, as you know, involved in the question of performing paracentesis of the chest; but the indications for its performance are the same in the child as in the adult; while my own experience would lead me to conclude that cases in which the operation is necessary, are of very rare occurrence in early life.—*Medical Gazette.—Ib.*

Case of Puerperal Convulsions, Treated with Chloroform. By James P. White, M. D.—*July 18th*, 1848. Was requested by Dr. Devening to see Mrs. Brady, then in labor, and suffering from a violent attack of puerperal convulsions. I found an Irish woman, of full habit, in her third pregnancy, he two previous labors having been favorable. Dr. D. had been with her but a short time; the convulsive paroxysms succeeding each other with great rapidity; the face flushed and pulse full. He had bled her twenty or twenty-four ounces with partial relief. As the pulse continued full, and the muscular efforts during the fits were violent, I deemed it prudent to repeat the bleeding, which was done to about the previous amount. On examination per vaginam, the breech was found occupying the superior strait, the soft parts dilatable, and the pelvis roomy. As the convulsions continued with but slight diminution, and the parts were favorable, though the pains were slight, it was deemed prudent to proceed without delay to deliver the child. To secure the tonic contraction of the

uterus, and guard against hemorrhage, two drachms of the wine of ergot were given. It occurred to me that chloroform might assist in controlling the woman, and lessening the agitation while making the attempt to bring down the child. Dr. D. accordingly applied some of Chilton's preparation to the nostrils, whilst I introduced my fingers into the vagina, and hooked them into the groin of the fœtus.

The muscular agitation, which before could not be controlled now subsided, and delivery was effected without difficulty; the uterine contraction continuing to be moderate. After applying such restoratives as were requisite to recover the child from a state of partial asphyxia, I applied a ligature to the cord, and laid it upon the bed. By placing the hand upon the abdomen, it was found to be still distended. Upon the re-introduction of the finger into the vagina, it came in contact with the arm of a second child, which I proceeded to turn and deliver, the patient inhaling the chloroform, and remaining quiet, with tolerably firm contraction of the uterus upon the hand during the operation. The double placenta and membranes were very soon pushed down into the vagina by the tonic contraction of the uterus, and were removed by Dr. Devening. Very little hemorrhage followed, and the proper bandage being applied, the patient was carefully laid back upon the bed. During the entire period succeeding the application of the anæsthetic agent, the woman was unconscious and calm, but at no time did we carry it so far as to produce stertorous breathing.

21st. The patient comfortable, and consciousness entirly restored. She has no recollection of anything which occurred during her labor after being seized with convulsions. The children are of good size, and doing well.

25th. From Dr. Devening I learn that the woman has so far recovered as to resume her usual domestic duties.

I have been thus full in the description of this case, from the fact that chloroform was resorted to. On the introduction of any new medicinal agent, it ordinarily occurs, that a part of the profession become advocates for its indiscriminate use; while, for no better apparent reasons than the love of opposition, or distaste for innovation, another party is formed who perseveringly contest its claims to favor. The recent controversies regarding the propriety of the use of the agent in question, are a sufficient evidence of the truth of this remark. On the one hand we find Dr. Simpson giving it to all parturient females, saying that, "in midwifery, most, or all of my brethren in Edinburgh employ it constantly;" that "no accidents

have yet happened, though several hundred thousands must have already been under its influence;" and he most complacently adds: "Those who most bitterly oppose its obstetric employment now, will be, ten or twenty years hence, amazed at their own professional cruelty." On the other hand, we find the scarcely less celebrated American Obstetrician, Dr. Meigs, a man, who, like Dr. Simpson, is usually found occupying a partizan position in regard to any novelty, in this instance strenuously opposing its use under all circumstances. He has not exhibited it in any case, nor has he any intention of so doing, remarking in his own peculiar style, "I have been accustomed to look upon the sensation of pain in labor, as the physiological relation of the power of force; and notwitstanding, I have seen so many women in the throes of labor, I have always regarded a labor pain as a most desirable, salutary, and conservative manifestation of life-force. I have found that women, provided they are sustained by cheering counsel and promises, and carefully freed from the distressing element of terror, could in general be made to endure, without great complaint, those labor-pains which the friends of anæsthesia desire so earnestly to abolish and nullify, for all the fair daughters of Eve." Dr. M. believes pain not only necessary, (and rightly as we think in many instances;) but desirable as a guide in obstetric operations; and that mere exemption from pain for a short time, would not justify him "in casting away his safest and most trustworthy diagnosis."

Opposed as we always are, to "meddlesome midwifery," we can have no doubt that any interference with the process of healthy labor is sure to be followed sooner or later, by injurious, if not fatal consequences. The advocates for the use of chloroform do not pretend, that under ordinary circumstances, it does more than merely relieve physical pain. Now if this interference with this hitherto invariable accompaniment of natural labor can be shown to be entirely safe, then it may be well to take the question of the propriety of its uniform use into serious consideration. A careful reference to the cases reported in the various American and European Journals, will be sufficient, at least, to throw great doubt on this point. For the present, therefore, we are prepared to conclude with Baron Dubois, that: "Its use in midwifery should be restrained to a limited number of cases, the nature of which, ulterior experience will better allow us to determine." It seems to us that anæsthetic agents may be applicable in puerperal convulsions, if, after proper depletion, the muscular contractions continue violent, and especially if turning or other in-

terference become necessary for the relief of the patient. The woman is already unconscious, and you do not, as is the case where unconsciousness is purposely induced, deprive yourself of a valuble guide in the application and use of instruments. On the contrary, if it should produce quietude, you secure an almost indispensable prerequisite to the safe performance of any operation at, or above the brim of the pelvis. Whether in the case of Mrs. B. the quietude was the result of the inhalation of the chloroform, or of the copious bleedings, without which, in this case, as we think, it would have been unsafe to resort to it, it may be difficult to determine. It is certainly a most remarkable instance of coincidence, if the subsidence of the eclampsia were not the result of the combined effect of the chloroform and bleeding; and, in our opinion, the result can scarcely be attributed to the single action of the latter.

A careful discrimination in the selection of cases, and a resort to it only with the proper precautions, may, by securing a number of well-attested observations, place in the hands of the Obstetrician an important auxiliary, though none but an enthusiast will look for a panacea.

It is in the hope of contributing in some slight degree to a more rational and judicious selection of cases for the exhibition of anæsthetic agents that this case has been furnished.—*Buffalo Medical Journal.*

On the Causes of Death in Secondary Amputations. By Dr. Fenwick.—In analyzing the causes of death in secondary amputations, it was found that, whilst the patients undergoing that operation were not so liable to inflammatory affections as those suffering amputation immediately after the receipt of an accident; yet, that they were more likely to sink from exhaustion than cases of pathological amputation, and that this in fact, constituted the chief danger of the amputation when performed at a considerable distance of time from the accident. From this we might be led to conclude, that the period of life in which the reduction of the strength of the patient by disease has the greatest effect in preventing subsequent inflammation, and, at the same time, that period in which the greatest power of resisting shock existed, we should find the most favorable for the secondary amputations; and this supposition Dr. Laurie's statistics confirm. Between 20 and 30 years of age, no deaths occurred out of 7 secondary amputations;

whilst before that period, in which we found the shock had so deadly an influence, 7 died out of 13, or one in every 1·85. Between 30 and 50 years of age, during which death most generally occurs from secondary inflammation, whether the operation be performed for traumatic or pathological causes, 12 died out of 16 cases of secondary amputation, or 1 in 1·33; whilst, beyond 50 years of age, of 8 cases, 6 also died, or 1 in 1·33. From 20 to 30 years is the age then, at which we gain most by deferring, for the longest time, an amputation for an accident, both because the reparative process is most active at that period, and therefore there is a greater chance of a natural recovery, and also becaus there is less danger than at other times of life of the patient's sinking from exhaustion immediately after the operation; whilst by the continuance of suppuration, the chance of the secondary inflammations to which that age is liable after amputations, is removed. In patients below 20 years of age, we should remove the limb at an earlier period if there seems but small probability of a natural recovery from the accident; because there is less power in persons at that time of life of surviving the shock of the amputation, if it be long deferred, and we gain less in other respects by delay, on account of the small chance of the occurrence of phlebitis, or other secondary inflammations, after the amputation, when performed on persons of that early age.

But the question arises, at what age are persons suffering compound fractures of the limbs least likely to reach that period when amputation can be safely employed? From an analysis of a number of such accidents to the lower extremities, I found that of persons below 20 years of age, 3 died out of 24, within the fourth and twenty-first day after the infliction of the injury. In none of these, therefore, could any chance of a favorable result, after amputation, have existed, otherwise that operation would have been attempted. Of 22 cases of compound fracture, between 20 and 40 years of age, 4 died, or 1 in 5·5; whilst of 20 cases who were between 40 and 60 years, 2 perished, or 1 in 10; and of 4 persons above that time of life, none died. It should be therefore borne in mind in attempting to save a dangerous case of compound fracture of the leg, without amputation, when the person is between 20 and 30 years of age, that there is less chance of a patient reaching the period of suppuration, when secondary amputation, if required, is most successful; although if that operation can be performed, there is a greater probability of recovery than if it were performed upon a person below 20 years of age.—*Edinburgh Med. & Surg. Jour.—New York Journal of Medicine.*

Progress of the Cholera.—At Riga, up to the 17th of August, 6,095 persons had been attacked, of whom 1,968 died, 3,709 recovered, and 418 were still ill. The epidemic has been more fatal at Mattau; of 782 persons who were attacked, up to the 31st of August, 303 have died, and only 54 have recovered. Since the beginning of July, the cholera has broken out in Siberia, where it had not penetrated in former years. At Stettin, where it broke out on the 10th, there have been 204 victims up to the 30th. During the twenty-four hours, from noon on the 30th, to noon on the 31st, the police received intelligence of 38 fresh cases—a far higher number than during any preceding day, when the number did not exceed 25. During the next twenty-four hours, the number of cases amounted to 50. During the same lapse of time, the number of fresh cases at Magdeburg was 11, which likewise shows an increase. From the East, the latest intelligence reaches to the 15th of August, from Trebizond; 19th from Constantinople; and 21st from Smyrna. At Trebizond, the disease seemed to be on the decline, though it had carried off 600 out of 1200 attacked. At Constantinople, the disease continued much the same; but at Smyrna, the deaths were some thirty per diem. Scarcely any attacked survive, and death has ensued after, in some cases, a few minutes, and in most cases, only a few hours. At Magnesia, eight hours distant from Smyrna, the deaths number 35 daily. From Egypt, the accounts from Cairo are to the 19th of August; and from Alexandria, to the 21st; both showing a decrease. The returns from the former report 202 cases on the 15th, 203 on the 16th, 184 on the 17th 143 on the 18th, and 174 on the 19th; from Alexandria, 97 cases on the 19th, 75 on the 20th 100 on the 21st.

A letter from Alleppo, published in the *Constitutionnel* of Wednesday, gives a frightful account of the ravages of the cholera morbus in Asia Minor. The number of deaths increases daily, and between the 17th and 19th of July, nearly 1000 patients succumbed. Belief in predestination prevents the Mohammedan part of the population from taking any precautions, or resorting to any remedies. Since the 15th of July, the average diurnal number of deaths has amounted to 140. To aggravate the evil, there are only three European physicians in Aleppo, with a population of 80,000.

It is said that of 14,000 men who formed the Russian corps which entered Wallachia, 1800 have died of cholera.

The cholera has appeared at Warsaw. It is on the increase in Berlin, and is making fearful ragages in many parts of Turkey.

The Cholera in Smyrna.—The following is an extract of a letter, dated Smyrna, 16th of August, five days later than the advices which have appeared in the London papers: "The cholera has appeared here, and a great many cases have proved fatal. At first it began amongst the lower classes, about five in a day, but now it is evidently increasing, and several people in our first streets have been taken off. A servant girl next door to mine died in six to eight hours. People are dreadfully terrified, and are all leaving town for the villages, being so much put out of the way, that they do not think of commerce. Until lately the fig crop has promised well, but recently some of them have turned yellow on the tree and dropped off. The Turks being obliged now to fast all day until the malady is over, the fruit will be kept in the interior.

The Cholera in Egypt.—Alexandria, Aug. 1st. The cholera has broken out, throughout all Egypt, with more or less intensity. It made its first appearance about the middle of last month, in a town of the Delta, called Tantah, where an immense number of people amounting to about 165.000, were assembled in pilgrimage, from all parts of Egypt and Syria, to celebrate the festival of a Mohammedan saint. In Cairo, during the last week, there have been about 300, cases daily; here about 120. In most of the villages on the Nile there are daily cases, and it is much feared that the number will materially increase during the present month of Ramadan, which began yesterday, when the natives fast all day, and commit excesses during the night. Before the people dispersed at Tantah, it is said that there must have been upwards of 3.000 deaths from this disease. On the first outbreak of the cholera, measures of quarrantine were strictly enforced, but they have since been abandoned as useless; no quarantine whatever is now performed, and arrivals from Constantinople are admitted to free *pratique.*

Austrian Poland.—The *Deutsche Allgemeine Zeitung* has letters from Gallicia, of Aug. 17th, stating that the cholera was then making rapid progress in that province, and had advanced as far as the circle of Wadowice, which touches the frontiers of Silesia. In the last mentioned province some cases had already been reported.

Berlin Aug. 21.—Up to the 20th, eighty persons have been attacked by the cholera; fifty-nine are dead, seven have recovered, and four are under treatment.

France.—The French government are very active in their measures regarding the approach of the cholera. The information received from the medical men who were sent to St. Petersburgh to study the disease, as well as the most efficacious curative and prophylactic means to combat the fearful scourge, will be speedily published.

Egypt.—We gather from the letter of a French physician, holding a sanitary appointment at Cairo, addressed to the Gazette Mèdicale de Strasbourg, the following particulars: "The cholera has made terrible ravages at Boulaq, a suburb of Cairo; the patients sank in a few hours, and the autopsy of several victims, made at the medical school before the professors of the establishment, has left no doubt as to the nature of the disease. On the 17th of July, as many as thirty a day were dying in Boulaq. Cairo itself had not suffered as yet, and the northern part of the above named suburb, which receives the fresh breezes, had been the most severely visited. The thermometer marks from 98° to 99° Fahr. in the shade. The disease on the 26th of July was on the decline, and more people are saved by prompt and active means. Cairo is now itself invaded, and the terror is very great, so much so that European physicians are admitted into the harems, a thing never heard of before. The number of deaths varies from 120 to 130 a day, and the number is just as high in Alexandria. The writer of this letter had been himself attacked, and had well nigh fallen a victim.

Russia.—The Augsburg Gazette has letters from St. Petersburg to the 12th of August, which inform us that the cholera had so far subsided that several temporary hospitals and lazarettos have been closed. 163 deaths occurred between the 4th and 10th of August. In Moscow and Riga the malady is gradually subsiding; but, on the other hand, it rages in Pskov, where, in the space of seven days, 111 patients out of 264 had succumbed and only 27 recovered.

Advices received from St. Petersburg up to August 15th, state—"There have been but 37 new cases of cholera before yesterday, and 19 deaths, whilst the number of recoveries amounted to 84. Yesterday morning there were still 891 cholera patients under treatment. If the disease continues to diminish in this manner, we shall be rid of it in a week. It is, on the other hand, announced that the cholera has just broken out at Narva, a town situated on the Narovia, thirty-five leagues west of St. Petersburg."

L'Union Médicale gives a few interesting extracts from a letter addressed to that journal from St. Petersburg: In 1846,

the summer was very hot in Europe, and at the close of the same year the cholera broke out in the Caucasian provinces. At the beginning of 1847, it traversed the Caspian sea, entered Russia by the Volga, and raged in all that part of the Russian empire until October 1847, when it arrived in Moscow in following the course of rivers. In June 1848, it reached St. Petersburg from Ladoga, in descending the Neva. If the fluvial theory be not strictly correct, it is very probable that the heat preceding the two invasions had something to do with the nature of the disease, for the hot summer of 1830 preceded its appearance in Russia in 1831, and the great heat of the summer of 1846 preceded the breaking out of 1847. Dr. Leroux, a French physician settled at St. Petersburg, maintains that the presence of cholera is owing to the absence of electricity in the atmosphere. As a proofof this he mentions that the usual thunder storms which close the winter season and usher in the spring, have this year been wanting at Moscow, and the cold season crept on as far as June; it froze on the 12th and snowed on the 20th; and with this total absence of storms and electric manifestations we have the cholera. At St. Petersburg, although the heat is not great, and there is moisture enough, the leaves wither and fall—is it for want of electricity in the atmosphere? The cholera broke out at St. Petersburg on the 7th of June, and began to decrease on the 6th of July. In June, rain and cold weather occurred; in the night, from the 5th to the 6th of July a violent storm and sultry heat, and with it a decline in the number of cases.—*London Lancet.*

Oxalate of Lime Diathesis.—In the *Medical Journal of the Med. Sciences*, for Oct., Dr. Fricke gives some interesting cases illustrative of the symptoms and treatment of the oxalate of lime diathesis, one of which we give, with his concluding remarks:—"*Feb.* 22*d*, 1848 ——— ———, æt. 36, and a lawyer by profession. His attack commenced about four months since, and he has been gradually getting worse. After being subjected for some time to the influence of moral causes, which tended to depress his nervous system, he found that his digestion had become impaired, that he had acquired a distaste for society, and was incapable of either mental or physical exertion. About two weeks since, in addition to these symptoms, he found himself seized with attacks of vertigo, and great muscular debility, so violent at times that he

would fall down suddenly, and require assistance to reach his home. This last symptom has increased so much within a few days past, that he is now unable to leave the house. At present his condition is as follows. Muscular development moderate, but no emaciation; countenance pale and sallow; skin moist, cold and clammy; tongue slightly furred, complete anorexia, and constipation; vertigo on the slightest exertion; pulse weak, otherwise natural, pain over the loins and along the course of the urethra, particularly in urinating; great confusion of thoughts and depression of spirits, perfect inability to apply his mind to even the ordinary affairs of every day life, and extreme despondency. An examination of a specimen of his urine gave the following result. Color deep red, specific gravity not ascertained. Large and copious yellowish-white deposit at the bottom of the glass, which clears up on heating it, and consists of urate of ammonia. On examining a drop of the lowest strata under the microscope, numerous crystals of oxalate of lime are perceptible of different shapes. The most abundant are of two different kinds, the one being very small double pyramids with square bases; and the other flat ovals from two to three lines in length of a black color, with the exception of a small transparent square in the middle. There are also some double pyramids of a larger size, and a few dumb bells, the latter being less concave at the sides than those figured by Golding Bird in his work on Urinary Diseases. In addition to the oxalate, there are observable large quantities of epithelium scales, and a few grains of lithic acid. The phosphates are deposited in the usual quantity on the addition of ammonia, and the urea is much increased while the uric acid is nearly wanting. Ordered a few doses of mass. hydrarg. with iron and quinine.

"*Feb.* 25*th.*—Symptoms nearly the same; ordered nitro-muriatic acid with chamomile tea three times daily.

"*March* 13*th.* Has been improving steadily since he commenced using the acid. Is walking about, and says he thinks he will now get well. A specimen of his urine was as follows: urea and uric acid nearly normal. Some very minute crystals in the form of pyramids and a few dumb bells, such as have been previously described, were observable, the whole quantity being very much less than in the specimen first examined.

"21*st.*—Says he is perfectly well; skin and color natural; no oxalate in the urine; but a few crystals of the triple phosphate are to be seen."

"A majority of the cases, from which the previous observa-

tions have been made, were comparatively mild, and in all the treatment was eminently successful. Evidences of gastric derangement being nearly always present, it was generally found necessary when the patient was first subjected to treatment to use appropriate means for its subdual. These were sometimes sedatives, sometimes massa hydrarg., and in two or three instances fel. bovis with ox. argent.; but in no case was it found that the oxalate disappeared from the urine under their administration. Nitro-muriatic acid in doses of from four to ten drops three times daily, combined with some tonic infusion, was used in all the cases. In but two instances did it disagree, ahd this was remedied by adding to it an infusion of hops. In addition to these means, the diet was carefully regulated, using an equal mixture of animal and vegetable food plainly dressed, and abstaining from stimulating drinks; at the same time exercise, bathing and the usual hygienic means were insisted on. We have heard two patients say that the acid acted upon them as an anodyne, that frequently when suffering from neuralgia and an undefined sense of uneasiness which prevented sleep, a single dose of medicine would procure most decided relief for an interval of some hours. If this relief was not owing to the imagination, it could only have been produced by the action of the acid upon the oxalate of lime, which we think is not at all probable.

Hydrophobia treated with Chloroform.—A case of hydrophophobia, treated unsuccesfully with Chloroform, is reported in the American Journal of the Medical Sciences, by Dr. Hartshorne.

The boy was thirteen years old. Was taken sick about six weeks after being bitten by a dog proved to behave as if rabid. Had high fever, which had no remission, and yet no characteristics of typhus or typhoid fever; he was not deaf; had no tympanitis; no petechia; but had throughout, excessive sensibility to impressions, particularly those of cold, and about the face; had a difficulty, at times incapability, of swallowing, caused by a spasm which made a violent respiration simultaneous with the attempt to swallow, and thus impeded the latter and endangered the passage of liquid into the windpipe; which symptom was constant, and belongs to no ordinary type of disease; had injections of laudanum. ℥ss or ℥j, repeated again and again with no effect: and breathed chloroform for hours, with only short intermissions, with no more

effect than to tranquillize him, and produce natural sleep, from which he was, once at least, roused by a return of wild delerium: and yet had no sign whatever of tetanus: no possibility of mania-a-potú: and very little and only occasional complaint of pain: which pain, when it occurred, except in the first stage, was in the arm which had been bitten by the dog; had also salivation, constant watering of the eyes, and finally vomiting: and whose delerium was, until quelled, of a malicious and furious character, or one of dread, horror, and distress: ending fatally at the end of the seventh day.

What name should be given to such a case? "Hydrophobia" is not appropriate, because in this and other cases they *desire* drink, but are incapable of benefitting by it: would not *dyspotia*, or rabies dyspotia be more correct.

It is a highly important fact, that the inhalation of chloroform, persevered in at intervals, did master the violent delirium and horror of the case. Dr. Smiley of Philadelphia, and Dr. Stout of Easton, have already noticed the same effect; although their cases also were fatal. This removes, at least, one element of evil from the disease. And if any remedial agency can ever give hope of *cure*, it must be, when aided by other means, one which has such control over the symptoms, attained hitherto by no other medicine.

We were deterred from depletion by the lancet by the supposed analogy to tetanus, in which stimulation is mostly requisite and useful. But free bleeding is said to have effected one or two recoveries; and has *à priori* plausibility in its favor, as the disease is inflammatory both in symptoms and post-mortem appearances. We were unwilling to use counter irritation to the spine, from the idea that death was certain, and that those means only were, therefore, justifiable, which lessened or did not increase suffering. And the early resort to chloroform was prevented by respect for the doubts of those who at first were inclined to regard it as a case of fever.

With a distinct diagnosis, should another case present, in recollection of the mitigation already obtained—would not the practitioner be justified in commencing with venesection: using chloroform, with discretion, from an early period; and applying some powerful revulsive, aided by a narcotic, to the nucha? Dr. R. S. Woddrop proposed vesication, followed by the free application of a salt of morphia. Perhaps *acupuncturation with aconitia* might prove more powerful. This treatment has been found successful in obstinate neuralgia. I used a sort of cataplasm of tinct. rad. aconit. to the throat in the above case. An excessive sensitiveness to incident impres-

sions, and consequently excessive motory action of particular muscles, *including the diaphragm* obviously in the case, as well as those of the throat, seems to present. Remedies which lessen sensation are the ones, then, which may mitigate the disorder at least. In France, the vapor bath is asserted to have wrought a cure; its efficacy should be tried, and might be aided, as was contemplated in our case, by medication with such articles as tobacco, chloroform, aconite, to produce a powerfully antispasmodic fumigation of the whole surface of the body. Prof. S. Jackson advises bathing in warm oil. When swallowing is impossible, the stomach tube might be inserted through the nostril, as done by Dr. Joseph Hartshorne, a number of years since, in the hospital; and life also supported by nutritious enemata.

But careful reflection will only deeply impress the conclusion, that with all the means that man can devise, the malady is one which affords less hope of cure, decidedly, than phthisis; and that prevention by immediate excision (or cauterization?) of the bitten part, is the only safeguard against its result.

Rupture of the Unimpregnated Uterus.—M. Gozzo, of Naples, narrates the following extraordinary case:—"A woman, aged 34, the subject of dismenorrhœa, and sterile, was examined. The uterus was felt above the pubis, as large as at the fifth month, but perfectly destitute of inequalities of its surface. The uterus continued to increase until its fundus reached the xiphoid cartilage; the menstrual discharge was irregular, and followed by considerable leucorrhœa. She was shortly seized with symptoms of intestinal obstruction, from which she was recovering, when she was suddenly seized with collapse and abdominal pain, and died in less than twenty-four hours.

After death the peritoneal cavity was found to be almost filled with pus, mingled with serous fluid and fœtid gas. The uterus adhered to the lateral parts of the abdomen, from the pubis as high as the umbilicus, filling the iliac regions; it was covered by the large omentum. The intestinal surface was irregular, and covered with fungous excrescences and tubercular masses of various sizes and forms, its cavity being filled with a white inodorous pus The uterine walls were thickened, and contained several small abscesses, some of which were close to its peritoneal surface. The posterior aspect of

the organ exhibited a rent, through which the matter had escaped into the abdomen. An encephaloid tumor was likewise found occupying the lower segment of the uterine surface.—*Provin. Med. & Surg. Jour. from Archives Génerales*, Mars 1848.

Re-Vaccinnations in the Prussian Army in 1847.—The total number of men vaccinated was 43,264; the number of those who bore marks of a former vaccinnation in a decided manner, 34,264; ditto with the marks not very distinct, 6,405; ditto with marks not visible at all, 2,927. The vaccine virus developed itself satisfactorily in 25,544; very irregularly in 7,425; and not at all in 10,627. The vaccinations which had yielded no results were repeated; they acted in 2,718; and failed entirely in 8,952 cases. In consequence of the present vaccination, there were developed from one to five vaccine pustules upon 13,295; from six to ten upon 8,164; from eleven to twenty upon 5,767; from twenty-one to thirty upon 1,036 of the men. Amongst those who were vaccinated in the year 1847, there was within the same year, no case of varicella, none of actual small-pox, and one only of chicken-pox. The lymph was obtained from vaccinated children or grown-up persons. It is remarkable that amongst those who were subjected to re-vaccination there were several who had had the small-pox before, yet upon whom the vaccine matter produced the usual pustules.—*Lancet.*

Tapping in Hydrocephalus.—Dr S. Parkman had performed this operation five times at intervals of a week in a child six months of age, drawing off about ten ounces of fluid each time; the punctures were made at the anterior fontanelle, on the side of the median line, and the instrument, a fine trochar, entered about two inches. The head measured twenty inches in circumference, and the fontanelles were large and bulging. The child was comatose; occasionally moaning; pupils dilated and insensible without strabismus. Pulse small and feeble; appetite as usual, and bowels inclined to costiveness. After each tapping, the head was carefully strapped with adhesive plaster, and the child aroused in a very marked manner. The fluid, however, rapidly regenerated each time, and death occurred after the fifth tapping, without any change of symptoms. At the autopsy the convulsions were found flattened, and the cerebral substance about half an inch thick; the ven-

tricular cavities contained a pint of clear fluid. No signs of inflammation produced by the operation.—*American Journal of Medical Sciences.*

Headache caused by Inflammation of the Frontal Sinuses.—M. Mombert was accidentally led to the appreciation of this cause of headache by the observation of a friend who was attacked with violent frontal headache, which lasted the whole day and departed towards night, again to recur with equal severity in the morning. Several physicians had prescribed for the patient without advantage. One morning, in the excess of his pain, he rubbed his forehead so violently with a clothes-brush that he completely took the skin off, leaving a sore, which remained for some time. From this period the headache entirely subsided. Instructed by this case, M. Mombert treated a patient laboring under similar symptoms by applying a blister over the frontal sinuses; the result was equally fortunate.

M. Mombert believes that this form of headache arises from catarrhal inflammation of the frontal sinuses, and thus the affection may be readily cured by counter-irritation applied as in the above-mentioned instance.—*Viertel Järeschrift für die Practisch. Hilkunde.—Ranking's Abstract.*

Statue of Liston.—We see by the London Medical Gazette, that a large number of noblemen and gentlemen have formed themselves into a committee, for the purpose of establishing some public and lasting testimonial to the memory of the late Mr. Liston. It is proposed to erect a statue in some public situation and also to found a gold medal, to be called the *Liston Medal*, to be awarded annually as the council of University College may decide. The subscriptions already made up, amount to upwards of £650.

Decay of Medical Science.—Portugal is not likely to be overstocked with medical men, for we find that the Medico-Chirurgical School of Lisbon reckons this year but eighty-four students; amongst whom twenty-two are commencing their fifth year of study, nineteen their fourth, twenty-eight their third, fourteen their second, and one only his first.

THE WESTERN JOURNAL.

THIRD SERIES.—VOL. II.—NO. V.

LOUISVILLE, NOVEMBER 1, 1848.

TO OUR READERS.

Our readers, we believe, will learn with some degree of surprise, that our Journal, after having gone on through nine years of apparent prosperity, is now in great danger of being suspended for want of pecuniary support. The publishers have declared to us their determination to discontinue it at the end of the present year unless subscribers in the mean time come forward and pay up their arrearages. They assure us that, with a steadily increasing subscription-list, their receipts for two years past have been steadily decreasing. Under such a state of things, they have no encouragement to go on with the work. It is now, therefore, with our readers to decide whether the Journal shall be discontinued or not. If they will come forward promptly, they may rescue it from impending peril, and we are not without hope that enough will do so to encourage the publishers to persevere at least a year longer. The amount due them for subscriptions is very large, the early payment of which, with punctuality in future, would place the Joarnal upon a secure basis. May we not, in such a crisis, call with some degree of confidence upon our readers, most of whom are our personal friends, and all the friends of their profession, the advancement and elvation of which is the sole object of our labors?

We are not satisfied to see the *Western Journal* suspended without,

one effort more—without, at least, this appeal to those who have it in their power to save it. We may over-estimate its value, but we have supposed it was doing good service to the cause in which it is enlisted. If our readers do not entertain the same opinion, their present decision will be final in the premises.

DEATH OF BARON BERZELIUS.

This eminent individual, the father of analytical chemistry, died on the 7th of August at Stockholm, in the 69th year of his age. He was born in Ostergothland, in Sweden, on the 20th of August, 1779, of a respectable family. At the age of 17 he entered the university of Upsala, where, among the studies in which he made rapid progress, chemistry soon became his favorite. In 1804 he received a diploma of Doctor in Medicine, and received an appointment in the Medical College at Stockholm, where, on account of his small income as a teacher of chemistry to young students, he was obliged also to practice as a physician. In 1807 he was appointed Professor of Medicine and Pharmacy, and in conjunction with others instituted, the same year, the Swedish Medical Society at Stockholm, described as now "constituting the very heart of the Medical profession in Sweden."

In 1808 he was made a member of the Royal Academy of Science, in 1810 officiated as president, and in 1818 as perpetual Secretary. The labor performed by him during his long life was immense, and chemistry is hardly more indebted to any one living or dead. He may be said to have first developed the electro-chemical system, and has done more than any other chemist to place upon an accurate basis the atomic theory of the elementary bodies. To him is due the credit of having laid the foundation of organic chemistry, that department of the science which, at present, most deeply interests the medical profession. His works are numerous, and have been translated into many languages. They are remarkable for their accuracy and research, and constitute the richest repository of chemical science accessible to the student.

Berzelius was greatly honored by his sovereign, King Charles John, who created him a nobleman in 1818, a Baron in 1835, Knight Commander of the Royal Order of Wasa in 1821, and Grand Cross of the same Order in 1829; he was also a Knight of the Royal Swedish Order of the Polar Star, and of several foreign Orders received from the Emperor of Russia, and the Kings of Prussia, Denmark

Belgium, France. and Sardinia; and an honora.y member of upwards of one hundred literary and scientific societies. The Diet of Stockholm, in consideration of the great services which he had bestowed on his native country, voted him, in 1840, the annual sum of 2,000 dollars *banco*, as a pension for his lifetime, independent of his former emoluments.

The London Lancet, to which we are indebted for these particulars, states, asshowing how high the illustrious deceased ranked in Germany, "that in a late history of the Devil, of which so many are published in that country, one of the main inducements his Satanic majesty is represented as holding out to a convert, still half doubtful of selling himself, is, that he will make him *a Berzelius*."

DISHONESTY OF A HOMOEOPATH.

Our caption might with truth run, *Dishonesty of the Homœopaths*, for we are persuaded that there is no honesty among them; but our object, just now, is to notice the flagrant outrage not long since perpetrated upon truth by a leader of this sect. We refer to Fleischmann, whose statistics were quoted and accredited by Dr. Forbes, in his famous paper on Homœopathy, but which are now ascertained to be not only incorrect, but *wilfully false*. Instead of treating patients indiscriminately as they came, it is proved that Fleischmann selected those of robust constitutions for his hospital—that he made out false diagnoses, and sent patients away when he found they were about to die, lest their deaths should bring discredit upon his system. It was upon the false data of this man, it will be remembered, that the most powerful argument of Dr. Forbes for the sufficiency of the *vis medicatrix naturæ* rested.

Homœopathy is a subject to which we seldom allude, but when a fraud so palpable and atrocious is practiced by one who sets himself up as a medical reformer, we feel it to be an act of simple justice to truth and science to expose it as thoroughly as possible. In this manner will perish all the statistics of these pretenders, when touched by the spear of truth.

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In the summer of 1847, when traveling in Western Virginia, we we gave an account of the (apparently) permanent cure, by the applica-

tion of some kind of caustic, of the breast of a lady, which had been regarded as affected with fungus hæmatodes. Eight months had then elapsed and the new integuments appeared perfectly sound. The caustic was applied by a physician of Galliopolis.

The account of this case having been seen by the friends of a lady of this city, whose right breast was in a state of schirrus advancing to ulceration, she determined to place herself in the care of a Cincinnati partner of of the Galliopolis practitioner. In five or six weeks his applications had caused an entire sloughing of the gland, and complete cicatrization followed. On the lapse of a few months, however, the new integuments assumed a well marked carcinomatous aspect, and at this time are in a state of cancerous ulceration. The disease is, also, advancing in the other breast, and the arm of the originally affected side, is in a semi-œdematous condition, and the seat of a great deal of pain. Having, by the publication of the other case, given a sort of currency to the practice by which it was cured, we consider it a duty to make known the failure of the same method in this case; in doing which we feel bound to add that there was probably a mistake in the diagnosis of the first case, which might not have been of a malignant character.

D.

UNSUCCESSFUL ATTEMPT AT POISONING WITH POUNDED GLASS.

We make the following extract of a letter from our intelligent correspondent, W. K. Bowling, M. D., of Adairville in this State, dated Oct. 15, 1848.

"Mrs. C. of this village, in her attentions to her child, about 9 months of age, after a discharge from its bowels, discovered some particles of glass adhering to its nates. Becoming alarmed she sent for my partner, Dr. Poor, who, upon his arrival, had the feces washed, and procured more than a teaspoonful of powdered glass. He gave the child a dose of castor oil, and superintended in person the washing of the discharges as long as any glass was found in them and procured by weight *eighty grains!* The glass had been irregularly powdered and exhibited fragments of every size from a grain of wheat to the finest sand. The child showed not the slightest indisposition, and remains perfectly well up to the present time, (five days) since the last glass was discovered in its discharges.

I have thought this case worthy of preservation for two reasons: 1st.

Because physicians rarely have an opportunity of witnessing the effect of pulverized glass upon the gastro-intestinal mucous membrane of man. 2d. Because the case appears to demonstrate that this substance does not exercise any deleterious influence." D.

BARTLETT ON CERTAINTY IN MEDICINE.

Nothing more beautiful in style, or excellent in doctrine and argument has issued from the American medical press than the little work, by Prof. Bartlett, on "*Certainty in Medicine.*" We commend it to every one who loves his profession—to every one who feels any abatement in his loyalty to it, or is disturbed by any scepticism concerning its certainty and efficiency; and, if we could reach them, we would earnestly press the perusal of it upon all those, out of the profession, whose minds have become filled with doubts, and would gladly come to the knowledge of the truth. May we not hope that pains will be taken to give to this work the widest distribution, in order that as far as a candid presentation of truth will do it the mischievous tendencies of the times may be corrected? The author evidently had in view the circulation of his book among non-professional readers, and if it can be made to reach its destination the good accomplished by it will be great. He has, in his own words, "woven a garland for the august and god-like forehead of the genius of our art," which entitles him to the gratitude, not only of his own profession, but of all, in every calling and walk of life, who love the truth and detest imposture.

The work, published by Messrs. Lea & Blanchard, is for sale in this city at the book stores of Mrs. Maxwell, Mr. F. W. Prescott, and Mr. Cowling, where we advise all our readers to apply early for copies.

NEILL AND SMITH'S COMPENDIUM.

We are also indebted to the publishers just mentioned for a copy of "*Neill & Smith's Compendium of Medicine,*" designed to facilitate the progress of medical students. As its name imports, it is merely a compend of the medical sciences, but as a summary of the chief facts and principles of the science, it will be found convenient and useful to the student. As a remembrancer of what he has heard in the lectures

through the day, he may turn to it in the evening with advantage, and may refresh his memory on points of science and practice just before presenting himself for examination. With reference to these ends the work was compiled, and it is but justice to say, that the objects of the authors have been fulfilled. The work is pretty certain to receive encouragement from the candidates for the doctorate in our country, now a numerous body.

DUNGLISON'S MEDICAL DICTIONARY.

This Medical Lexicon has reached the seventh edition, which is sufficient proof of its popularity. Every year since it made its appearance it has been growing in public favor, and this last edition, enlarged and improved as it is, and sent forth in the best style of the enterprising publishers, is sure to enhance still further the popularity of the work. We are indebted for a copy of it to Messrs. Lea & Blachard, through Mr. Prescot and Mrs. M. A. Maxwell, of this city.

DUFTON ON THE EAR.

This neat little monograph on a most interesting class of diseases is a reprint, by the same publishers, of an English edition, and is a seasonable contribution to our medical literature. The author remarks truly in his Introduction, that "no department of medicine has made slower advances than that connected with diseases of the ear and their treatment." The opinion is still too prevalent that diseases of the ear producing deafness are incurable. If properly treated, the author of this volume contends, "they yield as easily as those of other organs." We hope its appearance in this country will lead to a more careful study of these affections.

DRUITT'S MODERN SURGERY.

A new edition of this work has just been issued by Messrs. Lea & Blanchard, under the supervision of F. W. Sargent as editor. It is a reprint "from the last and improved London edition," as the title page runs, and is truly an improvement upon all former American editions,

not only in what has been added but in what has been suppressed. The notes, by the former editor, were few and meagre, but the little space they occupied was more than they deserved, and we are glad to find that they have been superseded by matter more worthy of the text. Druitt's work, condensed, systematic, lucid and practical as it is, beyond most works on surgery accessible to the American student, has had much currency in this country, and under its present auspices promises to rise to yet higher favor. The illustrations of the volume are good, and, in a word, the publishers have acquitted themselves fully of their duty.

TRANSACTIONS OF THE AMERICAN MEDICAL ASSOCIATION.

These Transactions, after much unavoidable delay, have at length made their appearance in a neat octavo volume of 400 pages, with a copious index. The committee of publication deserve the thanks of the Association for the handsome manner in which they have discharged their duties. The volume now presented to the profession, as the first fruits of the American Association, is replete with valuable matter, well arranged, and will form a work of reference, not only for the practitioner and student, but the future historian of American medicine.

After a pretty full account of the business transacted at the various sittings of the Association, follows the Appendix, containing the several reports of the standing committees, together with special reports on a variety of subjects. Among the latter is a valuable communication by Dr. Buck, of New York, on *Œdematous Laryngitis*, accompanied by four plates illustrative of the disease. A new feature in the anatomical structure of the Genito-urinary organs is also described by Dr. Buck, and illustrated with a plate. A severe form of inflammation of the Eye, following Typhus Fever, as it appeared in the city of New York, was reported by Dr. Dubois to the committee on Surgery, and concludes the scientific portion of this volume. To this succeeds a list of the permanent members of the Association.

The standing committees for next year are as follows:

Committee of Arrangements.—Dr. Jacob Bigelow, Boston, *Chairman.* Drs. E. Hale, Z. B. Adams, J. C. Dalton, John Ware, O. W. Holmes, and H. I. Bowditch, of Boston.

Committee on Medical Sciences.—Dr. L. P. Yandell, Kentucky, *Chairman.* Drs. S. M. Smith, Columbus, O., J. F. White, Cincin-